

## Algebra 1.5 – Inclement Weather Plan

This packet includes daily Bell Ringers, notes, examples and independent practices that you will complete if/when Todd County Schools puts into action its “INCLEMENT WEATHER PLAN.” If you get a call or notice that the school system is closed and working on the Inclement Weather Plan, you will need to complete the assignments for the appropriate day(s).

We will be available through email to answer questions if you need help. Websites are provided for some topics. These may help clarify information.

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**DAY #1 – Bell Ringer; Probability (pg. 105)**

[https://www.khanacademy.org/math/precalculus/prob\\_comb/basic\\_prob\\_precalc/v/basic-probability](https://www.khanacademy.org/math/precalculus/prob_comb/basic_prob_precalc/v/basic-probability)

**DAY #2 – Bell Ringer; The Fundamental Counting Principle (pg.832)**

<https://www.khanacademy.org/math/in-eighth-grade-math/data-handling-1/new-topic-2015-11-12T18:23:30.291Z/e/fundamental-counting-principle>

**DAY #3 – Bell Ringer; Permutations and Combinations (pg. 837)**

[https://www.khanacademy.org/math/precalculus/prob\\_comb/combinations/e/permutations\\_and\\_combinations\\_2](https://www.khanacademy.org/math/precalculus/prob_comb/combinations/e/permutations_and_combinations_2)

**DAY #4 – Bell Ringer; Permutations and Combinations (pg. 838)**

**DAY #5 – Bell Ringer; QUIZ**

**DAY #6 – Bell Ringer; Independent and Dependent Events (pg. 843)**

[https://www.khanacademy.org/math/probability/independent-dependent-probability/dependent\\_probability/e/identifying-dependent-and-independent-events](https://www.khanacademy.org/math/probability/independent-dependent-probability/dependent_probability/e/identifying-dependent-and-independent-events)

[https://www.khanacademy.org/math/precalculus/prob\\_comb/dependent\\_events\\_precalc/v/independent-events-1](https://www.khanacademy.org/math/precalculus/prob_comb/dependent_events_precalc/v/independent-events-1)

**DAY #7 – Bell Ringer; Mutually Exclusive and Inclusive Events (pg. 844)**

[https://www.khanacademy.org/math/precalculus/prob\\_comb/dependent\\_events\\_precalc/v/independent-events-1](https://www.khanacademy.org/math/precalculus/prob_comb/dependent_events_precalc/v/independent-events-1)



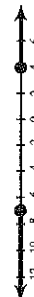
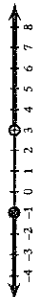
**DAY #8 – Bell Ringer**

**DAY #9 – Bell Ringer; REVIEW**


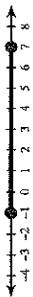
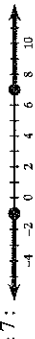

**DAY #10 – Bell Ringer; UNIT TEST**

Increment Weather Plan - Day #1

Solve each inequality and graph its solution.

- 1)  $8 + 3|-6x + 4| \geq 104$   
 A)  $1 < x < 19$  :   
 B)  $x \leq -\frac{14}{3}$  or  $x \geq 6$  :   
 C)  $x \leq -7$  or  $x \geq 4$  :   
 D)  $x \leq -1$  or  $x > 3$  : 

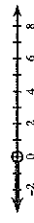




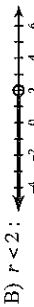
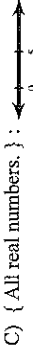

2)  $6|-6x + 5| + 2 < 104$

- A)  $-2 < x < \frac{11}{3}$  :   
 B)  $-1 \leq x \leq 7$  :   
 C)  $x \leq -1$  or  $x \geq 7$  :   
 D)  $-2 < x < 0$  : 

Solve each equation.

- 3)  $1 + 4\left|\frac{x}{10}\right| = 3$   
 A)  $\{5, -5\}$  B)  $\{9, -9\}$   
 C)  $\{-1, 1\}$  D)  $\{9\}$   
 4)  $|k - 10| + 1 = 3$   
 A)  $\{4, -4\}$  B)  $\{10, -8\}$   
 C)  $\{10\}$  D)  $\{12, 8\}$

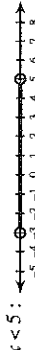



Solve each inequality and graph its solution.

- 5)  $30 + 3r < -6r + 6(-8r + 5)$   
 A)  $r < 0$  :   
 B)  $\{\text{All real numbers}\}$  :   
 C)  $r < -17$  :   
 D)  $r < -4$  : 
- 6)  $-37 + r > 7(r - 7)$   
 A)  $r > 3$  :   
 B)  $r < 2$  :   
 C)  $\{\text{All real numbers}\}$  :   
 D)  $r < 3$  : 

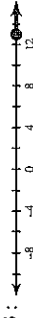

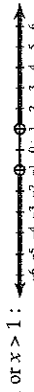

Solve each equation.

- 7)  $8v + 37 = -3(1 - 6v)$   
 A)  $\{-9\}$  B)  $\{4\}$   
 C)  $\{-13\}$  D)  $\{5\}$
- 8)  $-3(8a + 3) + 3 = 14 - 4a$   
 A)  $\{-1\}$  B)  $\{1\}$   
 C)  $\{15\}$  D)  $\{8\}$

Solve each compound inequality and graph its solution.

- 9)  $5 + 5x < x + 1 \leq 4 + 2x$   
 A)  $-3 < x < 5$  :   
 B)  $\{\text{All real numbers}\}$  :   
 C)  $-3 \leq x < -1$  :   
 D)  $-9 < x < -2$  : 

10)  $2x + 8 > 4x + 10$  or  $6 - 6x < 5x - 5$

- A)  $x \geq 13$  :   
 B)  $x \leq 4$  :   
 C)  $x < -1$  or  $x > 1$  :   
 D)  $x \leq 1$  or  $x \geq 2$  : 

# Day #1 Bell Ringer

2-6

Study Guide and Intervention

Day 1

Probability: Simple Probability and Odds

Lesson 2-6

**Probability** The probability of a **simple event** is a ratio that tells how likely it is that the event will take place. It is the ratio of the number of favorable outcomes of the event to the number of possible outcomes of the event. You can express the probability either as a fraction, as a decimal, or as a percent.

Probability of a Simple Event	For an event $a$ , $P(a) = \frac{\text{number of favorable outcomes}}{\text{number of possible outcomes}}$
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**Example 1** Mr. Babcock chooses 5 out of 25 students in his algebra class at random for a special project. What is the probability of being chosen?

$$P(\text{being chosen}) = \frac{\text{number of students chosen}}{\text{total number of students}}$$

The probability of being chosen is  $\frac{5}{25}$  or  $\frac{1}{5}$ .

**Example 2** A bowl contains 3 pears, 4 bananas, and 2 apples. If you take a piece of fruit at random, what is the probability that it is *not* a banana?

There are  $3 + 4 + 2$  or 9 pieces of fruit.  
There are  $3 + 2$  or 5 pieces of fruit that are not bananas.

$$P(\text{not banana}) = \frac{\text{number of other pieces of fruit}}{\text{total number of pieces of fruit}}$$

$$= \frac{5}{9}$$

The probability of *not* choosing a banana is  $\frac{5}{9}$ .

**Exercises**

A card is selected at random from a standard deck of 52 cards. Determine each probability.

- |                           |                              |                              |
|---------------------------|------------------------------|------------------------------|
| 1. $P(10)$                | 2. $P(\text{red } 2)$        | 3. $P(\text{king or queen})$ |
| 4. $P(\text{black card})$ | 5. $P(\text{ace of spades})$ | 6. $P(\text{spade})$         |

Two dice are rolled and their sum is recorded. Find each probability.

- |   |                                      |  |
|---|--------------------------------------|--|
| 7. $P(\text{sum is } 1)$                | 8. $P(\text{sum is } 6)$             | 9. $P(\text{sum is less than } 4)$     |
| 10. $P(\text{sum is greater than } 11)$ | 11. $P(\text{sum is less than } 15)$ | 12. $P(\text{sum is greater than } 8)$ |

A bowl contains 4 red chips, 3 blue chips, and 8 green chips. You choose one chip at random. Find each probability.

- |                                |                                  |                                  |
|--------------------------------|----------------------------------|----------------------------------|
| 13. $P(\text{not a red chip})$ | 14. $P(\text{red or blue chip})$ | 15. $P(\text{not a green chip})$ |
|--------------------------------|----------------------------------|----------------------------------|

A number is selected at random from the list  $\{1, 2, 3, \dots, 10\}$ . Find each probability.

- |                             |                                |                              |
|-----------------------------|--------------------------------|------------------------------|
| 16. $P(\text{even number})$ | 17. $P(\text{multiple of } 3)$ | 18. $P(\text{less than } 4)$ |
|-----------------------------|--------------------------------|------------------------------|

19. A computer randomly chooses a letter from the word **COMPUTER**. Find the probability that the letter is a vowel.

Day #1 Practice

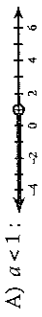
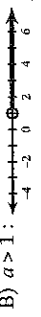
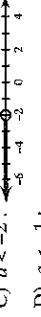

**Inclement Weather Plan - Day #2**

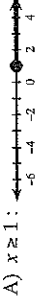
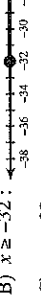


**Solve each equation.**

- 1)  $-5|b + 10| + 5 = -95$   
 A) {4, -4}    B) {2, -2}  
 C) {6, -6}    D) {10, -30}

- 2)  $10|6x| - 8 = 52$   
 A) {4, 2}    B) {1}  
 C) {1, -1}    D) {-1}

**Solve each inequality and graph its solution.**

- 3)  $-6(5a + 4) > 26 - 5a$   
 A)  $a < 1$ :   
 B)  $a > 1$ :   
 C)  $a < -2$ :   
 D)  $a < -1$ : 




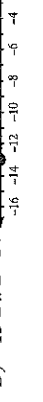
- 4)  $7x - 10 \geq -3(8x - 7)$   
 A)  $x \geq 1$ :   
 B)  $x \geq -32$ :   
 C)  $x \geq -32$ :   
 D)  $x \geq 1$ : 

**Solve each equation.**

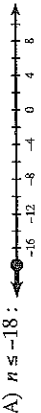
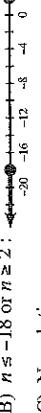
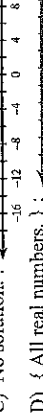

- 5)  $-7(1 + 2m) = -31 - 2m$   
 A) {All real numbers.}  
 B) {2}  
 C) {12}  
 D) No solution.

- 6)  $2 - 6(1 + 4a) = 38 - 3a$   
 A) {-2}  
 B) No solution.  
 C) {8}  
 D) {All real numbers.}

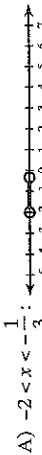
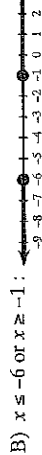

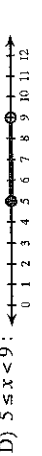
**Solve each compound inequality and graph its solution.**

- 7)  $8x - 6 \leq 7x - 7 \leq 8x + 6$   
 A)  $x \geq 2$ :   
 B)  $x \geq -13$ :   
 C)  $x \leq 14$ :   
 D)  $-13 \leq x \leq -1$ : 

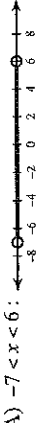
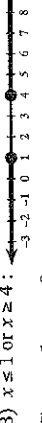

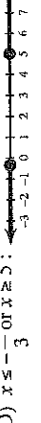
8)  $9 + 3n \leq 2n - 9$  or  $-9 - n \geq -2n - 7$

- A)  $n \leq -18$ :   
 B)  $n \leq -18$  or  $n \geq 2$ :   
 C) No solution.:   
 D) {All real numbers.}: 

**Solve each inequality and graph its solution.**

- 9)  $-10 + 8|6x + 7| < 30$   
 A)  $-2 < x < -\frac{1}{3}$ :   
 B)  $x \leq -6$  or  $x \geq -1$ :   
 C)  $-6 \leq x \leq -1$ :   
 D)  $5 \leq x < 9$ : 

10)  $-4|2 + 4x| - 1 > -105$

- A)  $-7 < x < 6$ :   
 B)  $x \leq 1$  or  $x \geq 4$ :   
 C)  $x < -5$  or  $x > 9$ :   
 D)  $x \leq -\frac{1}{3}$  or  $x \geq 5$ : 

## 14-1 Study Guide and Intervention (continued)

## Counting Outcomes

Day 2

**The Fundamental Counting Principle** Another way to count the number of possible outcomes is to use the Fundamental Counting Principle.

**Fundamental Counting Principle**

If an event  $M$  can occur in  $m$  ways and an event  $N$  can occur in  $n$  ways, then  $M$  followed by  $N$  can occur in  $m \cdot n$  ways.

**Example**

Carly and Jake went to an arcade with 9 different games.

- a. In how many different orders can they play the games if they play each one only once?

The number of orders for playing can be found by multiplying the number of choices for each position. Let  $n$  represent the number of possible orders.

$$n = 9 \cdot 8 \cdot 7 \cdot 6 \cdot 5 \cdot 4 \cdot 3 \cdot 2 \cdot 1 = 362,880$$

There are 362,880 ways to play each of 9 arcade games once. This is also known as a **factorial**, or  $n = 9! = 9 \cdot 8 \cdot 7 \cdot 6 \cdot 5 \cdot 4 \cdot 3 \cdot 2 \cdot 1$ .

- b. If they have only enough tokens to play 6 different games, how many ways can they do this?

Use the Fundamental Counting Principle to find the sample space. There are 9 choices for the first game, 8 choices for the second, and so on, down to 4 choices for the sixth game.

$$n = 9 \cdot 8 \cdot 7 \cdot 6 \cdot 5 \cdot 4 = 60,480$$

There are 60,480 ways to play 6 different arcade games once.

**Exercises**

Find the value of each expression.

1.  $6!$

2.  $11!$

3.  $8!$

4. A sub sandwich restaurant offers four types of sub sandwiches, three different types of potato chips, five types of bread, and six different beverages. How many different sandwich and drink combinations can you order?
5. How many outfits are possible if you can choose one from each of four shirts, three pairs of pants, two pairs of shoes, and two jackets?
6. In how many ways can you arrange 5 boxes of cereal on a shelf?
7. Seven students sit in a row in the auditorium. In how many ways can they arrange themselves?
8. Kinjal puts 12 different books on a shelf. In how many different ways can she arrange them?

Day #2  
Practice

Increment Weather Plan - Day #3

Solve each equation.

1)  $2(-3 + 2r) = -9 + 7r$

- A)  $\{-2\}$
- B)  $\{1\}$
- C)  $\{-10\}$
- D)  $\{7\}$

2)  $24 - 2a = -6(8 + 3a) - 8a$



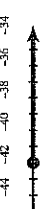

- A)  $\{13\}$
- B) No solution.
- C)  $\{-3\}$
- D)  $\{16\}$

3)  $\frac{r}{4} - 2 = 8$


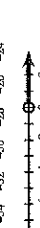
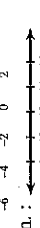
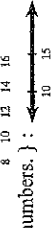
- A)  $\{3, -17\}$
- B)  $\{5, -5\}$
- C)  $\{3, -3\}$
- D)  $\{6, -20\}$

Solve each inequality and graph its solution.

5)  $-8n - 40 \geq -(8n + 4)$

- A)  $n \geq -38$  ; 
- B)  $n \leq -38$  ; 
- C)  $n \geq 1$  ; 
- D)  $n \geq -20$  ; 


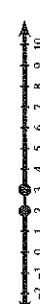
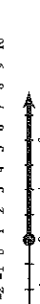
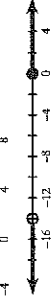
6)  $-3(4 - 7r) + 2 > 4r - 10$

- A)  $r > -30$  ; 
- B)  $r > 0$  ; 
- C) No solution. ; 
- D) { All real numbers. } ; 

4)  $9 + 2|9 + n| = 27$

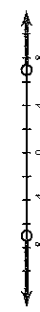
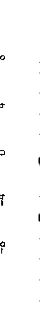
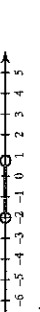
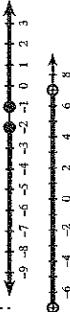
- A)  $\{-8, -10\}$
- B)  $\{2, -2\}$
- C)  $\{-8\}$
- D)  $\{0, -18\}$

8)  $-r - 5 \leq 10r - 5$  or  $3r - 6 > 8 + 4r$

- A)  $r \geq 0$  or  $r < -1$  ; 
- B)  $r \leq 2$  or  $r \geq 3$  ; 
- C)  $r \geq 0$  ; 
- D)  $r \geq 0$  or  $r < -14$  ; 

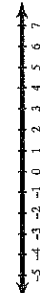
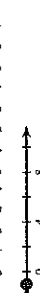

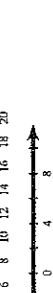
Solve each inequality and graph its solution.

9)  $-7 - 9|8n + 5| > -106$


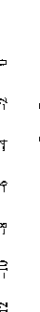


- A)  $n < -7$  or  $n > 7$  ; 
- B)  $-2 < n < \frac{3}{4}$  ; 
- C)  $n \leq -2$  or  $n \geq -1$  ; 
- D)  $-7 < n < 7$  ; 

Solve each compound inequality and graph its solution.

7)  $8x - 8 \leq 10x - 10 \leq 9x + 7$

- A) { All real numbers. } ; 
- B)  $x \leq -1$  ; 
- C)  $1 \leq x \leq 17$  ; 
- D)  $x \geq -6$  ; 

10)  $9|2x + 10| - 4 < 50$

- A)  $-8 < x < -2$  ; 
- B)  $-2 \leq x \leq -\frac{2}{5}$  ; 
- C)  $-8 \leq x \leq -3$  ; 
- D)  $x \leq -10$  or  $x \geq 3$  ; 

# Day #3

## Bell Ringer



# 14-2 Study Guide and Intervention

## Permutations and Combinations Day 3

**Permutations** An arrangement or listing in which order or placement is important is called a **permutation**. For example the arrangement AB of choices A and B is different from the arrangement BA of these same two choices.

Permutations	${}_n P_r = \frac{n!}{(n-r)!}$
--------------	--------------------------------

**Example 1** Find  ${}_6 P_2$ .

$$\begin{aligned} {}_n P_r &= \frac{n!}{(n-r)!} && \text{Definition of } {}_n P_r \\ {}_6 P_2 &= \frac{6!}{(6-2)!} && n = 6, r = 2 \\ &= \frac{6!}{4!} && \text{Simplify.} \\ &= \frac{6 \cdot 5 \cdot 4 \cdot 3 \cdot 2 \cdot 1}{4 \cdot 3 \cdot 2 \cdot 1} && \text{Definition of factorial} \\ &= 6 \cdot 5 \text{ or } 30 && \text{Simplify.} \end{aligned}$$

There are 30 permutations of 6 objects taken 2 at a time.

**Example 2** A specific program requires the user to enter a 5-digit password. The digits cannot repeat and can be any five of the digits 1, 2, 3, 4, 7, 8, and 9.

- a. How many different passwords are possible?
- b. What is the probability that the first two digits are odd numbers with the other digits any of the remaining numbers?

$$\begin{aligned} {}_n P_r &= \frac{n!}{(n-r)!} \\ {}_7 P_5 &= \frac{7!}{(7-5)!} \\ &= \frac{7 \cdot 6 \cdot 5 \cdot 4 \cdot 3 \cdot 2 \cdot 1}{2 \cdot 1} \\ &= 7 \cdot 6 \cdot 5 \cdot 4 \cdot 3 \text{ or } 2520 \end{aligned}$$

There are 2520 ways to create a password.

$$P(\text{first two digits odd}) = \frac{\text{number of favorable outcomes}}{\text{number of possible outcomes}}$$

Since there are 4 odd digits, the number of choices for the first digit is 4, and the number of choices for the second digit is 3. Then there are 5 choices left for the third digit, 4 for the fourth, and 3 for the fifth, so the number of favorable outcomes is  $4 \cdot 3 \cdot 5 \cdot 4 \cdot 3$ , or 720.

$$\text{The probability is } \frac{720}{2520} \approx 28.6\%$$

**Exercises**

Evaluate of each expression.

- 1.  ${}_7 P_4$
- 2.  ${}_{12} P_7$
- 3.  $({}_9 P_9)({}_{16} P_2)$

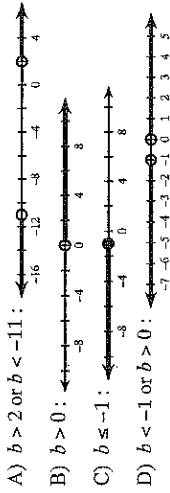
- 4. A club with ten members wants to choose a president, vice-president, secretary, and treasurer. Six of the members are women, and four are men.
  - a. How many different sets of officers are possible?
  - b. What is the probability that all officers will be women.

Day #3 Practice

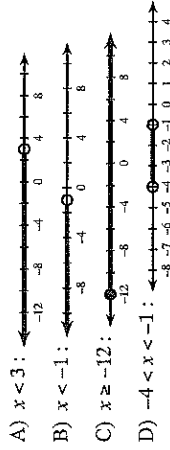
**Increment Weather Plan - Day #4**

Solve each compound inequality and graph its solution.

1)  $-4 - b < 2b - 10$  or  $6b + 7 < -4 + 5b$



2)  $3x - 1 > 6x + 2$  and  $-7x - 7 < -6x - 3$



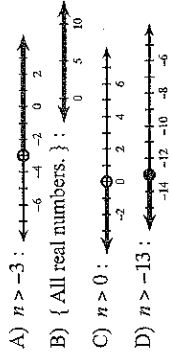
Solve each equation.

- 3)  $10|-4k| - 9 = 111$   
 A)  $\{-3, 3\}$  B)  $\{8\}$   
 C)  $\{8, -8\}$  D)  $\{14, -10\}$

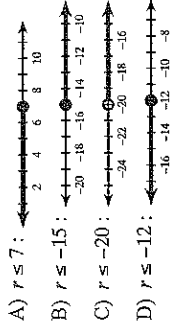
- 4)  $-8|-9n| - 1 = -73$   
 A)  $\{18, 2\}$  B)  $\{-3, 3\}$   
 C)  $\{0, -14\}$  D)  $\{-1, 1\}$

Solve each inequality and graph its solution.

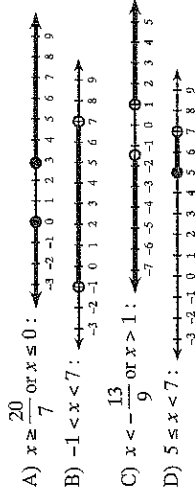
5)  $-7n - 33 < -4(n + 6)$



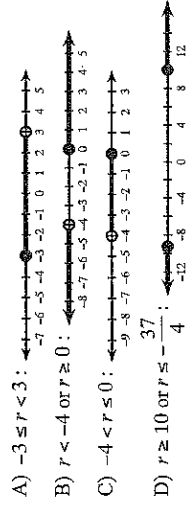
6)  $-6r + 2(6 - 4r) ≥ -30 - 8r$



7)  $7|-2 - 9x| + 7 > 84$



8)  $|8r - 3| - 8 ≥ 69$



Solve each equation.

- 9)  $-32 - 6y = 7(6y + 2) + 2$   
 A)  $\{-16\}$  B)  $\{-2\}$   
 C)  $\{-1\}$  D)  $\{8\}$

- 10)  $-40 - 7x = 8(4x - 5)$   
 A)  $\{-13\}$  B) No solution.  
 C)  $\{0\}$  D)  $\{7\}$

# Day #4

## Bell Ringer



# 14-2 Study Guide and Intervention *(continued)*

## Permutations and Combinations *Day 4*

**Combinations** An arrangement or listing in which order is not important is called a **combination**. For example, AB and BA are the same combination of A and B.

Combinations	${}_n C_r = \frac{n!}{(n-r)!r!}$
--------------	----------------------------------

**Example** A club with ten members wants to choose a committee of four members. Six of the members are women, and four are men.

a. How many different committees are possible?

$$\begin{aligned} {}_n C_r &= \frac{n!}{(n-r)!r!} && \text{Definition of combination} \\ &= \frac{10!}{(10-4)!4!} && n = 10, r = 4 \\ &= \frac{10 \cdot 9 \cdot 8 \cdot 7}{4!} && \text{Divide by the GCF 6!} \\ &= 210 && \text{Simplify.} \end{aligned}$$

There are 210 ways to choose a committee of four when order is not important.

b. If the committee is chosen randomly, what is the probability that two members of the committee are men?

There are  ${}_4 C_2 = \frac{4!}{(4-2)!2!} = 6$  ways to choose two men randomly, and there are

${}_6 C_2 = \frac{6!}{(6-4)!4!} = 15$  ways to choose two women randomly. By the Fundamental

Counting Principle, there are  $6 \cdot 15$  or 90 ways to choose a committee with two men and two women.

$$\begin{aligned} \text{Probability (2 men and 2 women)} &= \frac{\text{number of favorable outcomes}}{\text{number of possible outcomes}} \\ &= \frac{90}{210} \text{ or about } 42.9\% \end{aligned}$$

### Exercises

Find the value of each expression.

1.  ${}_7 C_3$

2.  ${}_{12} C_8$

3.  $({}_9 C_9)({}_{11} C_9)$

4. In how many ways can a club with 9 members choose a two-member sub-committee?

5. A book club offers its members a book each month for a year from a selection of 24 books. Ten of the books are biographies and 14 of the books are fiction.

a. How many ways could the members select 12 books?

b. What is the probability that 5 biographies and 7 fiction books will be chosen?

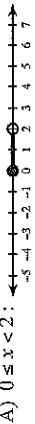


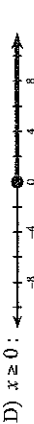
Day #4 Practice

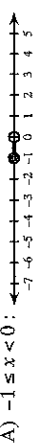

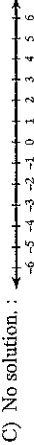
Increment Weather Plan - Day #5

Solve each equation.

- 1)  $10 - 6|-4k| = -110$   
 A)  $\{4, -22\}$  B)  $\{-1, 1\}$   
 C)  $\{-5, 5\}$  D)  $\{-2, -8\}$
- 2)  $6 + 3|-10 + a| = 30$   
 A)  $\{5\}$  B)  $\{-3, 3\}$   
 C)  $\{5, 1\}$  D)  $\{18, 2\}$

Solve each compound inequality and graph its solution.

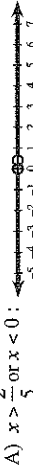
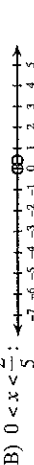
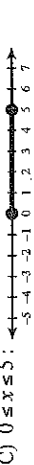
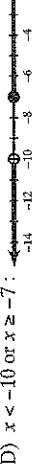
- 3)  $4x - 2 < 2x + 2 \leq 4x + 2$   
 A)  $0 \leq x < 2$ :   
 B)  $x < 11$ :   
 C)  $x > -2$ :   
 D)  $x \geq 0$ : 


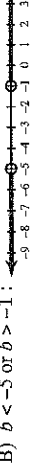

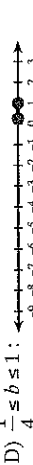
- 4)  $-8x + 3 < 2 - 7x < -9x + 10$   
 A)  $-1 \leq x < 0$ :   
 B)  $x < 7$ :   
 C) No solution.  
 D)  $1 < x < 4$ : 



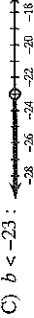

Solve each equation.

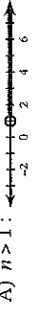

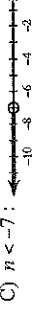
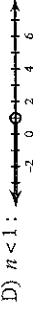
- 5)  $-40 - 2x = 8x + 2(-8x - 2)$   
 A)  $\{2\}$  B)  $\{6\}$   
 C)  $\{1\}$  D)  $\{-9\}$
- 6)  $6 + 7(3 - 8a) = -25 - 4a$   
 A)  $\{1\}$   
 B)  $\{-12\}$   
 C)  $\{-11\}$   
 D)  $\{\text{All real numbers.}\}$

Solve each inequality and graph its solution.

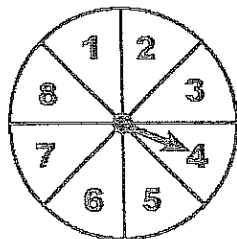
- 7)  $10 - 3|10 - 4x| \geq -20$   
 A)  $x > \frac{2}{5}$  or  $x < 0$ :   
 B)  $0 < x < \frac{2}{5}$ :   
 C)  $0 \leq x \leq 5$ :   
 D)  $x < -10$  or  $x \geq -7$ : 

- 8)  $7|8b - 5| - 4 \leq 17$   
 A)  $-5 < b < -1$ :   
 B)  $b < -5$  or  $b > -1$ :   
 C)  $0 < b < \frac{16}{5}$ :   
 D)  $\frac{1}{4} \leq b \leq 1$ : 

- 9)  $-3b - 40 < -b - 6(1 + 6b)$   
 A)  $b < -39$ :   
 B)  $b < -37$ :   
 C)  $b < -23$ :   
 D)  $b < 1$ : 

- 10)  $27 + n < -5(n + 3)$   
 A)  $n > 1$ :   
 B)  $n > 1$ :   
 C)  $n < -7$ :   
 D)  $n < 1$ : 

## INCLEMENT WEATHER QUIZ ( DAY5)



The spinner above is used in a game. What is the probability of the following events?

- \_\_\_\_\_ 1.  $P(\text{composite number})$
- a.  $\frac{5}{8}$  c. 0
- b.  $3:5$  d.  $\frac{3}{8}$
- \_\_\_\_\_ 2.  $P(8)$
- a.  $\frac{1}{8}$  c.  $\frac{1}{7}$
- b.  $\frac{7}{8}$  d. 1
- \_\_\_\_\_ 3.  $P(\text{not } 5)$
- a.  $\frac{1}{8}$  c.  $\frac{1}{7}$
- b. 0 d.  $\frac{7}{8}$
- \_\_\_\_\_ 4.  $P(\text{more than } 3)$
- a. 0 c.  $\frac{3}{4}$
- b.  $\frac{5}{8}$  d.  $\frac{9}{8}$

A bowl contains 7 green chips, 4 blue chips, and 9 red chips. You choose one chip at random. Find the probability.

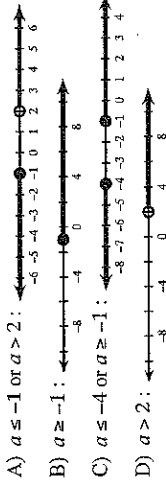
- \_\_\_\_\_ 5.  $P(\text{red chip})$
- a.  $\frac{9}{20}$  c.  $\frac{7}{20}$
- b.  $\frac{1}{2}$  d. 1
- \_\_\_\_\_ 6.  $P(\text{not blue})$
- a.  $\frac{1}{5}$  c.  $\frac{4}{5}$
- b.  $\frac{16}{19}$  d.  $\frac{3}{4}$
- \_\_\_\_\_ 7. Four dice, one green, one orange, one purple, and one blue are rolled. How many outcomes are possible?
- a. 24 c. 1296
- b. 256 d. 4096

Day #5  
QUIZ

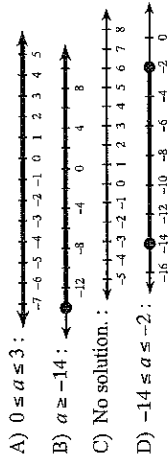
**Inclement Weather Plan - Day #6**

Solve each compound inequality and graph its solution.

1)  $3 - 4a \geq -3a + 7$  or  $5a - 9 \leq 9a - 5$



2)  $5a - 6 \leq 6a + 8 \leq 5a$



Solve each equation.

3)  $22 + 8n = -7(6n - 2) + 8$

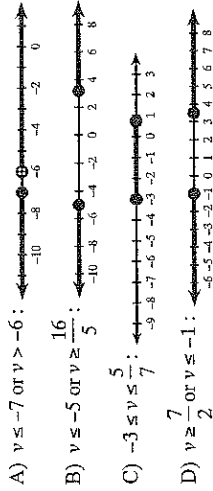
- A) { All real numbers. }
- B) {0}
- C) {-9}
- D) {-12}

4)  $-30 + 2x = -5x - 8(-2x + 6)$

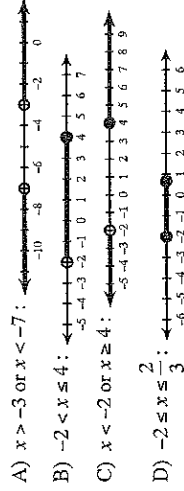
- A) {-14}
- B) No solution.
- C) {2}
- D) {9}

Solve each inequality and graph its solution.

5)  $7|8 + 7v| + 3 \leq 94$



6)  $2 - 3|6 + 9x| \geq -34$



Solve each equation.

7)  $-5|x - 1| - 10 = -35$

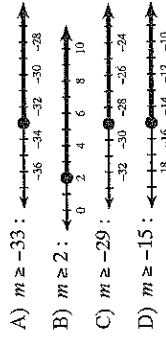
- A) {7, -15}
- B) {9, 5}
- C) {6, -4}
- D) {7, -1}

8)  $-3 - 8|a + 6| = -83$

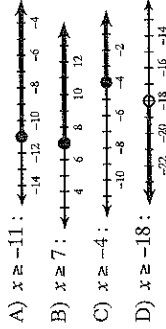
- A) {9, -5}
- B) {4, -16}
- C) {15, -7}
- D) {4}

Solve each inequality and graph its solution.

9)  $34 + 5m \leq 6m - 4(4 - 6m)$



10)  $8(8 + 4x) \geq 8x - 32$



# Day #6 Bell Ringer

# 14-3 Study Guide and Intervention

## Probability of Compound Events

Day 6

**Independent and Dependent Events** Compound events are made up of two or more simple events. The events can be independent events or they can be dependent events.

Probability of Independent Events	Outcome of first event does not affect outcome of second.	$P(A \text{ and } B) = P(A) \cdot P(B)$	Example: rolling a 6 on a die and then rolling a 5
Probability of Dependent Events	Outcome of first event does affect outcome of second.	$P(A \text{ and } B) = P(A) \cdot P(B \text{ following } A)$	Example: without replacing the first card, choosing an ace and then a king from a deck of cards

**Example 1** Find the probability that you will roll a six and then a five when you roll a die twice.

By the definition of independent events,  $P(A \text{ and } B) = P(A) \cdot P(B)$

$$\text{First roll: } P(6) = \frac{1}{6}$$

$$\text{Second roll: } P(5) = \frac{1}{6}$$

$$\begin{aligned} P(6 \text{ and } 5) &= P(6) \cdot P(5) \\ &= \frac{1}{6} \cdot \frac{1}{6} \\ &= \frac{1}{36} \end{aligned}$$

The probability that you will roll a six and then roll a five is  $\frac{1}{36}$ .

**Example 2** A bag contains 3 red marbles, 2 green marbles, and 4 blue marbles. Two marbles are drawn randomly from the bag and not replaced. Find the probability that both marbles are blue.

By the definition of dependent events,  $P(A \text{ and } B) = P(A) \cdot P(B \text{ following } A)$

$$\text{First marble: } P(\text{blue}) = \frac{4}{9}$$

$$\text{Second marble: } P(\text{blue}) = \frac{3}{8}$$

$$\begin{aligned} P(\text{blue, blue}) &= \frac{4}{9} \cdot \frac{3}{8} \\ &= \frac{12}{72} \\ &= \frac{1}{6} \end{aligned}$$

The probability of drawing two blue marbles is  $\frac{1}{6}$ .

**Exercises**

A bag contains 3 red, 4 blue, and 6 yellow marbles. One marble is selected at a time, and once a marble is selected, it is not replaced. Find each probability.

- $P(2 \text{ yellow})$
- $P(\text{red, yellow})$
- $P(\text{blue, red, yellow})$
- George has two red socks and two white socks in a drawer. What is the probability of picking a red sock and a white sock in that order if the first sock is not replaced?
- Phyllis drops a penny in a pond, and then she drops a nickel in the pond. What is the probability that both coins land with tails showing?
- A die is rolled and a penny is dropped. Find the probability of rolling a two and showing a tail.

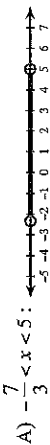

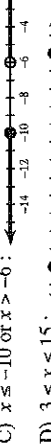

Day #6  
Practice

Increment Weather Plan - Day #7

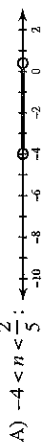

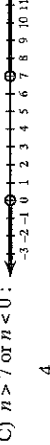

Solve each equation.

- 1)  $39 + 3b = -2 + 5(4b - 2)$     A)  $\{-13\}$     B)  $\{3\}$   
 C)  $\{12\}$     D)  $\{9\}$
- 2)  $4(-5n + 7) = 28 + 5n$     A)  $\{-7\}$     B)  $\{13\}$   
 C)  $\{0\}$     D)  $\{-15\}$

Solve each inequality and graph its solution.

- 3)  $8 - |6x - 8| > -14$
- A)  $-\frac{7}{3} < x < 5$  : 
- B)  $-10 \leq x < -6$  : 
- C)  $x \leq -10$  or  $x > -6$  : 
- D)  $3 \leq x \leq 15$  : 



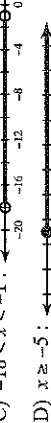


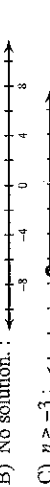


4)  $2 + 4|3n + 10| > 58$

- A)  $-4 < n < \frac{2}{5}$  : 
- B)  $n \leq -10$  or  $n > 8$  : 
- C)  $n > 7$  or  $n < 0$  : 
- D)  $n > \frac{4}{3}$  or  $n < -8$  : 

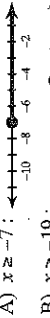
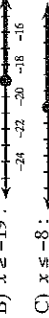
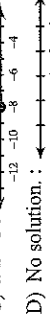

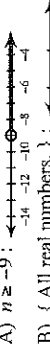

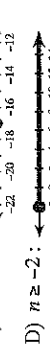
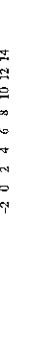
Solve each equation.

- 5)  $9|-5n| - 3 = 87$     A)  $\{-2\}$     B)  $\{9\}$   
 C)  $\{-2, 2\}$     D)  $\{9, -7\}$
- 6)  $8 - 4|2a| = -64$     A)  $\{20, 0\}$     B)  $\{9, -9\}$   
 C)  $\{12, 0\}$     D)  $\{9\}$

Solve each compound inequality and graph its solution.

- 7)  $7 - 3x \geq 4x - 7$  and  $-2 + 9x > -6x - 2$
- A)  $0 < x \leq 2$  : 
- B)  $x < -1$  : 
- C)  $-18 < x < -1$  : 
- D)  $x \geq -5$  : 
- 8)  $4 + 9n < 10n - 4$  or  $8n + 10 \leq -10n - 8$
- A)  $n > 8$  or  $n \leq -1$  : 
- B) No solution. : 
- C)  $n \geq -3$  : 
- D) {All real numbers.} : 

Solve each inequality and graph its solution.

- 9)  $7x - 4(1 + x) < -6 + 3x$
- A)  $x \geq -7$  : 
- B)  $x \geq -19$  : 
- C)  $x \leq -8$  : 
- D) No solution. : 
- 10)  $-21 + 7n \geq 7(n - 3)$
- A)  $n \geq -9$  : 
- B) {All real numbers.} : 
- C)  $n \geq -17$  : 
- D)  $n \geq -2$  : 

# Day #7

## Bell Ringer

# 14-3 Study Guide and Intervention *(continued)*

## Probability of Compound Events *Day 7*

**Mutually Exclusive and Inclusive Events** Events that cannot occur at the same time are called **mutually exclusive**. If two events are not mutually exclusive, they are called **inclusive**.

Probability of Mutually Exclusive Events	$P(A \text{ or } B) = P(A) + P(B)$	$P(\text{rolling a 2 or a 3 on a die}) = P(2) + P(3) = \frac{1}{3}$
Probability of Inclusive Events	$P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$	$P(\text{King or Heart}) = P(K) + P(H) - P(K \text{ and } H) = \frac{9}{26}$

### Example

Suppose a card is drawn from a standard deck of 52 cards.

Find the probability of drawing a king or a queen.

Drawing a king or a queen are mutually exclusive events.

By the definition of mutually exclusive events,  $P(A \text{ or } B) = P(A) + P(B)$ .

$$P(A) = P(\text{king}) = \frac{4}{52} = \frac{1}{13} \quad P(B) = P(\text{queen}) = \frac{4}{52} = \frac{1}{13}$$

$$\begin{aligned} P(\text{king or queen}) &= \frac{1}{13} + \frac{1}{13} \\ &= \frac{2}{13} \end{aligned}$$

The probability of drawing a king or a queen is  $\frac{2}{13}$ .

### Exercises

A bag contains 2 red, 5 blue, and 7 yellow marbles. Find each probability.

- $P(\text{yellow or red})$
- $P(\text{red or not yellow})$
- $P(\text{blue or red or yellow})$

One card is drawn from a standard deck of 52 cards. Find each probability.

- $P(\text{jack or red})$
- $P(\text{red or black})$
- $P(\text{jack or clubs})$
- $P(\text{queen or less than 3})$
- $P(5 \text{ or } 6)$
- $P(\text{diamond or spade})$

- In a math class, 12 out of 15 girls are 14 years old and 14 out of 17 boys are 14 years old. What is the probability of selecting a girl or a 14-year old from this class?


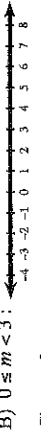

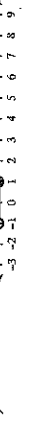
**Inclement Weather Plan - Day #8**




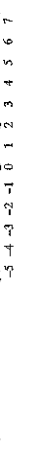
Solve each equation.

- 1)  $5(n+8) - 3 = -28 - 8n$   
 A)  $\{-15\}$   
 B)  $\{-5\}$   
 C)  $\{10\}$   
 D)  $\{\text{All real numbers.}\}$
- 2)  $-5(3p+5) - 4p = -8p + 30$   
 A) No solution.  
 B)  $\{4\}$   
 C)  $\{\text{All real numbers.}\}$   
 D)  $\{-5\}$



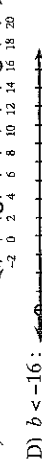
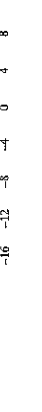
- 3)  $30 + 6v = -5(-7v - 6)$   
 A)  $\{4\}$   
 B)  $\{8\}$   
 C)  $\{-1\}$   
 D)  $\{0\}$
- 4)  $-13 - 7y = -3(8 + 6y)$   
 A)  $\{-1\}$   
 B)  $\{10\}$   
 C)  $\{-10\}$   
 D)  $\{1\}$

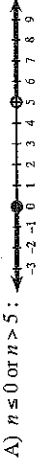


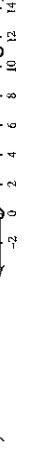
Solve each compound inequality and graph its solution.

- 5)  $-9m + 8 < 10 - 7m$  and  $m - 10 \leq -m - 8$   
 A)  $m < 1$ :   
 B)  $0 \leq m < 3$ :   
 C)  $m < 3$ :   
 D)  $-1 < m \leq 1$ : 





- 6)  $6r - 10 > 5r - 8$  or  $-4r + 1 \leq 1 - 5r$   
 A)  $r \leq 0$ :   
 B)  $\{\text{All real numbers.}\}$ :   
 C) No solution.:   
 D)  $r > 2$  or  $r \leq 0$ : 

7)  $2b + 7 \leq b - 10$  or  $7b + 1 \geq 4b + 7$

- A)  $b \leq -17$  or  $b \geq 2$ :   
 B)  $\{\text{All real numbers.}\}$ :   
 C)  $b < 3$  or  $b > 16$ :   
 D)  $b < -16$ : 

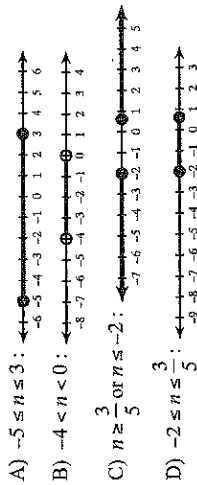
- 8)  $10 - 7n \geq -4n + 10$  or  $8n - 5 > 5n + 10$   
 A)  $n \leq 0$  or  $n > 5$ :   
 B)  $n > 5$ :   
 C)  $n > 11$ :   
 D)  $n > 11$  or  $n < 0$ : 

Solve each inequality and graph its solution.

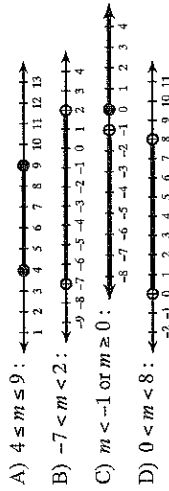
- 9)  $-6|6 + 8k| - 1 \leq -13$   
 A)  $k \geq 11$  or  $k \leq -9$ :   
 B)  $k \geq -\frac{1}{2}$  or  $k \leq -1$ :   
 C)  $-9 \leq k \leq 11$ :   
 D)  $-7 < k \leq 4$ : 



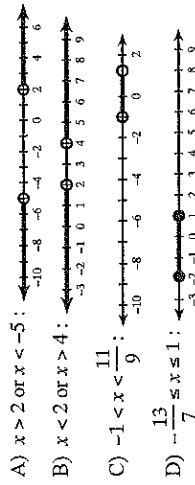
10)  $2|7 + 10n| + 5 \geq 31$



11)  $2|-2m + 8| - 3 < 13$



12)  $-10 - 7|9x - 1| > -80$



Solve each equation.

13)  $5|v + 3| + 3 = 48$

- A)  $\{5, -7\}$  B)  $\{6, -12\}$   
 C)  $\{8, 2\}$  D)  $\{8, -8\}$

14)  $-9 - 10|2r| = -69$

- A)  $\{4, -4\}$  B)  $\{13, -5\}$   
 C)  $\{3, -3\}$  D)  $\{3\}$

15)  $7\left|\frac{n}{9}\right| - 7 = 0$

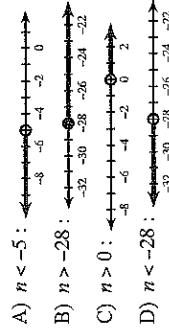
- A)  $\{22\}$  B)  $\{22, -2\}$   
 C)  $\{1, -1\}$  D)  $\{9, -9\}$

16)  $-10 - 7\left|\frac{x}{2}\right| = -38$

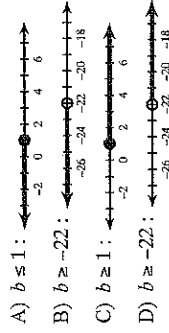
- A)  $\{9, -9\}$  B)  $\{8, -8\}$   
 C)  $\{7, -17\}$  D)  $\{5, -5\}$

Solve each inequality and graph its solution.

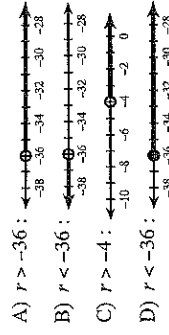
17)  $-7(5n + 6) + 8 < -34 + 8n$



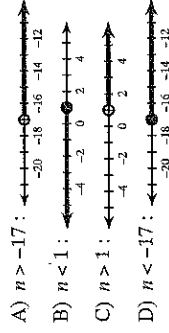
18)  $23 + b \leq 8(-5 + 8b)$



19)  $-3(-6r - 5) > -37 + 5r$



20)  $6n - 29 > 5(-7n + 4) - 8n$

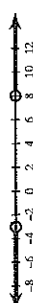
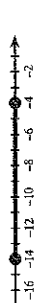

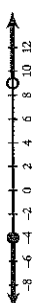



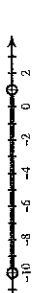

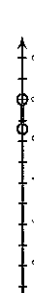
# Day #8

## Bell Ringer, cont.

**Inclement Weather Plan - Day #9**

Solve each inequality and graph its solution.

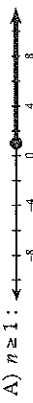

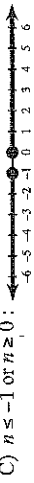

- 1)  $-9|x+9| + 5 \geq -40$
- A)  $x < -3$  or  $x > 8$  : 
- B)  $-14 \leq x \leq -4$  : 
- C)  $x \leq -10$  or  $x > 8$  : 
- D)  $x \leq -4$  or  $x > 9$  : 



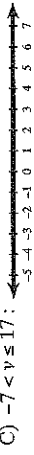
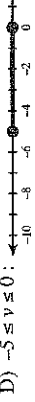
- 2)  $-9|10v+7| - 4 > -67$
- A)  $v > 2$  or  $v < 0$  : 
- B)  $-10 < v < 1$  : 
- C)  $v \leq -6$  or  $v \geq 1$  : 
- D)  $-\frac{7}{5} < v < 0$  : 

Solve each equation.



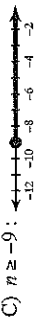
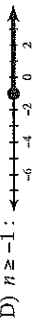
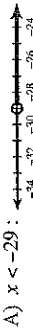

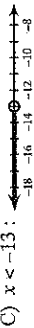
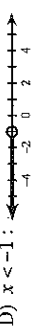
- 3)  $-31 + 8r = 5(4r + 1)$   
 A)  $\{4\}$  B)  $\{-10\}$   
 C)  $\{-3\}$  D)  $\{-2\}$
- 4)  $-3(x + 6) = -18 - x$   
 A)  $\{8\}$  B)  $\{5\}$   
 C)  $\{11\}$  D)  $\{0\}$

Solve each compound inequality and graph its solution.

- 5)  $-9 - 8n \geq 8 + 9n$  or  $n + 6 \geq -8n + 6$
- A)  $n \geq 1$  : 
- B)  $n \geq 3$  : 
- C)  $n \leq -1$  or  $n \geq 0$  : 
- D)  $n \leq -4$  : 

- 6)  $v - 10 \leq 10 + 5v \leq 2v + 10$
- A)  $v \geq -6$  : 
- B)  $v \geq -5$  : 
- C)  $-7 < v \leq 17$  : 
- D)  $-5 \leq v \leq 0$  : 

Solve each inequality and graph its solution.

- 7)  $-26 + n \geq -3 + 6(1 + 5n)$
- A)  $n \leq -1$  : 
- B)  $n \geq -9$  : 
- C)  $n \geq -9$  : 
- D)  $n \geq -1$  : 
- 8)  $-5(6x + 1) < 19 - 6x$
- A)  $x < -29$  : 
- B)  $x > -1$  : 
- C)  $x < -13$  : 
- D)  $x < -1$  : 

Solve each equation.

- 9)  $9|4n| + 9 = 117$   
 A)  $\{3, -3\}$  B)  $\{7, 1\}$   
 C)  $\{10, -26\}$  D)  $\{10\}$
- 10)  $6|-7x| + 9 = 51$   
 A)  $\{-1, 1\}$  B)  $\{3, -3\}$   
 C)  $\{17, -5\}$  D)  $\{5, -9\}$

# Day #9

## Bell Ringer

## INCLEMENT WEATHER REVIEW FOR UNIT TEST (DAY9)

A bowl contains 7 green chips, 4 blue chips, and 9 red chips. You choose one chip at random. Find the probability.

- \_\_\_\_\_ 1.  $P(\text{red chip})$
- |                   |                   |
|-------------------|-------------------|
| a. $\frac{9}{20}$ | c. $\frac{7}{20}$ |
| b. $\frac{1}{2}$  | d. 1              |
- \_\_\_\_\_ 2.  $P(\text{not blue})$
- |                    |                  |
|--------------------|------------------|
| a. $\frac{1}{5}$   | c. $\frac{4}{5}$ |
| b. $\frac{16}{19}$ | d. $\frac{3}{4}$ |
- \_\_\_\_\_ 3.  $P(\text{green or blue})$
- |                    |                    |
|--------------------|--------------------|
| a. $\frac{9}{20}$  | c. 1               |
| b. $\frac{11}{20}$ | d. $\frac{11}{21}$ |

A person is born in the month of September. Find the probability.

- \_\_\_\_\_ 4.  $P(\text{date is before September 10})$
- |                   |                   |
|-------------------|-------------------|
| a. $\frac{9}{31}$ | c. $\frac{3}{10}$ |
| b. $\frac{1}{3}$  | d. 1              |
- \_\_\_\_\_ 5.  $P(\text{the date is the 25th})$
- |                   |                   |
|-------------------|-------------------|
| a. $\frac{1}{30}$ | c. $\frac{1}{6}$  |
| b. $\frac{5}{6}$  | d. $\frac{1}{28}$ |
- \_\_\_\_\_ 6. A die is rolled five times. How many outcomes are possible?
- |          |           |
|----------|-----------|
| a. 30    | c. 7,776  |
| b. 3,125 | d. 46,656 |
- \_\_\_\_\_ 7. The Sunshine Grill offers a breakfast special in which you can choose one type of eggs, one type of cereal, and one type of drink. If there are seven types of eggs, 12 types of cereal, and four types of drinks, how many different breakfast specials can be ordered?
- |       |        |
|-------|--------|
| a. 28 | c. 84  |
| b. 48 | d. 336 |
- \_\_\_\_\_ 8. The Chicken Place offers a lunch combo that includes a chicken sandwich, one side item, and a beverage. If there are four chicken sandwich choices, 10 side item choices, and seven beverage choices, how many different lunch combos can you order?
- |        |       |
|--------|-------|
| a. 280 | c. 40 |
| b. 70  | d. 28 |
- \_\_\_\_\_ 9. How many outfits are possible if you choose one each of nine shirts, three pairs of shorts, and five pairs of shoes.
- |       |        |
|-------|--------|
| a. 15 | c. 45  |
| b. 27 | d. 135 |

- \_\_\_\_\_ 10. Five dice, one red, one orange, one green, one blue, and one yellow are rolled. How many outcomes are possible?
- a. 30  
b. 1,296  
c. 7,776  
d. 15,625

*Evaluate the expression.*

- \_\_\_\_\_ 11.  ${}_8P_4$
- a. 70  
b. 1,680  
c. 4,096  
d. 32
- \_\_\_\_\_ 12.  ${}_{13}C_4$
- a. 52  
b. 17,160  
c. 28,561  
d. 715

*A bin contains seven red chips, nine green chips, three yellow chips, and six blue chips. Find each probability.*

- \_\_\_\_\_ 13. Drawing a red chip, replacing it, then drawing a blue chip
- a.  $\frac{42}{625}$   
b.  $\frac{7}{100}$   
c.  $\frac{13}{50}$   
d.  $\frac{13}{49}$
- \_\_\_\_\_ 14. drawing a red chip, not replacing it, then drawing a blue chip
- a.  $\frac{42}{625}$   
b.  $\frac{7}{100}$   
c.  $\frac{13}{50}$   
d.  $\frac{13}{49}$
- \_\_\_\_\_ 15. selecting three green chips without replacement
- a.  $\frac{21}{575}$   
b.  $\frac{729}{15625}$   
c.  $\frac{8}{25}$   
d.  $\frac{64}{1725}$
- \_\_\_\_\_ 16. selecting three green chips with replacement
- a.  $\frac{21}{575}$   
b.  $\frac{729}{15625}$   
c.  $\frac{8}{25}$   
d.  $\frac{64}{1725}$
- \_\_\_\_\_ 17. choosing a red chip, then a green chip, then a yellow chip, with replacement
- a.  $\frac{19}{25}$   
b.  $\frac{19}{72}$   
c.  $\frac{189}{15625}$   
d.  $\frac{63}{4600}$
- \_\_\_\_\_ 18. choosing a red chip, then a green chip, then a yellow chip, without replacement
- a.  $\frac{19}{25}$   
b.  $\frac{19}{72}$   
c.  $\frac{189}{15625}$   
d.  $\frac{63}{4600}$
- \_\_\_\_\_ 19. drawing a yellow chip, replacing it and choosing a blue chip.
- a.  $\frac{3}{100}$   
b.  $\frac{3}{200}$   
c.  $\frac{9}{625}$   
d.  $\frac{18}{625}$

- \_\_\_\_\_ 20. drawing a yellow chip, not replacing it and choosing a blue chip.
- a.  $\frac{3}{100}$     c.  $\frac{9}{625}$   
 b.  $\frac{3}{200}$     d.  $\frac{18}{625}$

*A standard deck of cards contains 52 cards divided evenly into four suits. The suits are hearts and diamonds which are red and clubs and spades which are black. Each suit is composed of cards numbered two through ten and a jack, queen, king, and ace.*

- \_\_\_\_\_ 21. What is the probability of selecting a spade or a club from a standard deck of cards?
- a.  $\frac{1}{52}$     c.  $\frac{1}{4}$   
 b.  $\frac{1}{26}$     d.  $\frac{1}{2}$
- \_\_\_\_\_ 22. What is the probability of selecting a heart or ace from a standard deck of cards?
- a.  $\frac{1}{13}$     c.  $\frac{4}{13}$   
 b.  $\frac{1}{4}$     d.  $\frac{17}{52}$
- \_\_\_\_\_ 23. What is the probability of selecting a king or queen?
- a.  $\frac{1}{13}$     c.  $\frac{1}{52}$   
 b.  $\frac{2}{13}$     d.  $\frac{1}{26}$
- \_\_\_\_\_ 24. What is the probability of selecting a red or black card?
- a. 0    c.  $\frac{1}{2}$   
 b.  $\frac{1}{4}$     d. 1
- \_\_\_\_\_ 25. What is the probability of selecting a card that is a red card or an ace from a standard deck of cards?
- a.  $\frac{1}{2}$     c.  $\frac{7}{13}$   
 b.  $\frac{15}{26}$     d.  $\frac{1}{13}$

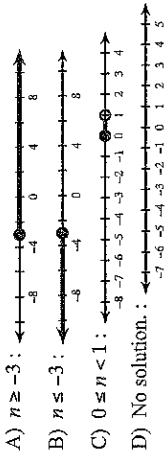
Increment Weather Plan - Day #10

Solve each equation.

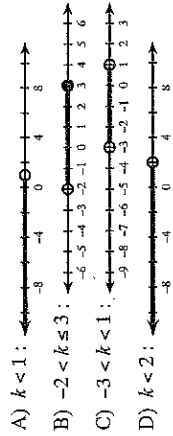
- 1)  $-6(-x - 4) = 19 + 5x$   
 A)  $\{13\}$  B) No solution.  
 C)  $\{-5\}$  D)  $\{-6\}$
- 2)  $-26 + 4n = 5(1 + 7n)$   
 A)  $\{-3\}$  B)  $\{-6\}$   
 C)  $\{-12\}$  D)  $\{-1\}$

Solve each compound inequality and graph its solution.

- 3)  $-1 + n < 9 - 9n$  and  $9n + 2 \geq 2 - 9n$   
 A)  $n \geq -3$  B)  $n \leq -3$   
 C)  $0 \leq n < 1$  D) No solution.

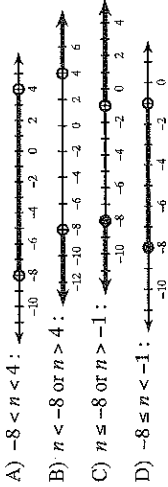


- 4)  $-7 + 6k < 9k + 2 < 5 + 6k$

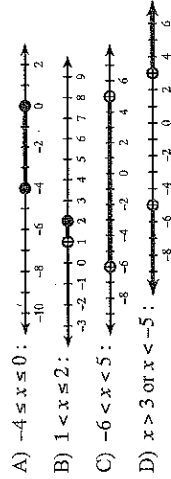


Solve each inequality and graph its solution.

- 5)  $-7|-2n - 4| - 8 > -92$   
 A)  $-8 < n < 4$   
 B)  $n < -8$  or  $n > 4$   
 C)  $n \leq -8$  or  $n > -1$   
 D)  $-8 \leq n < -1$



- 6)  $7 + 2|4x + 4| > 39$

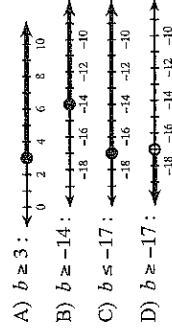


Solve each equation.

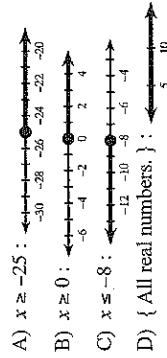
- 7)  $-3|-8m| + 7 = -17$   
 A)  $\{9, -9\}$  B)  $\{12, 8\}$   
 C)  $\{-1, 1\}$  D)  $\{17, -5\}$
- 8)  $6 + 9|-6m| = 114$   
 A)  $\{3\}$  B)  $\{-2, 2\}$   
 C)  $\{-2\}$  D)  $\{3, -3\}$

Solve each inequality and graph its solution.

- 9)  $-2(-b + 2) \leq 3b - 7$



- 10)  $8(8x - 1) \geq -8 - x$



# Day #10

## Bell Ringer

1.

A cafeteria offers a choice of five sandwiches, three salads, and three beverages. How many different meals can be chosen if each meal consists of one sandwich, one salad, and one beverage?

- A. 1
- B. 5
- C. 11
- D. 45

-----

2.

If Manuel has five different shirts and seven different ties, how many different choices of a shirt and a tie does he have?

- A. 5
- B. 7
- C. 12
- D. 35

-----

3.

How many ways can six different plants be arranged side by side on a shelf?

- A. 6
- B. 36
- C. 720
- D. 5,040

-----

4.

Paloma has 3 jackets, 6 scarves, and 4 hats. What is the number of different outfits consisting of a jacket, a scarf, and a hat that Paloma can wear?

- A. 13
- B. 18
- C. 24
- D. 72

-----

5.

How many different three-member teams can be formed from six students?

- A. 20
- B. 120
- C. 216
- D. 720

-----

6.

A locker combination system uses three digits from 0 to 9. How many different three-digit combinations with no digit repeated are possible?

- A. 30
- B. 504
- C. 720
- D. 1,000

-----

7.

How many different five-digit numbers can be formed from the digits 1, 2, 3, 4, and 5 if each digit is used only once?

- A. 120
- B. 60
- C. 24
- D. 20

-----

8.

Leo purchased five shirts, three pairs of pants, and four pairs of shoes. Which expression represents how many different outfits consisting of one shirt, one pair of pants, and one pair of shoes Leo can make?

- A.  $5 \cdot 3 \cdot 4$
- B.  $5 + 3 + 4$
- C.  ${}_{12}C_3$
- D.  ${}_{12}P_3$

-----

9.

Two cubes whose faces are numbered 1 through 6 are tossed. What is the probability that both cubes show the same number?

- A. 36
- B.  $\frac{6}{36}$
- C.  $\frac{1}{36}$
- D.  $\frac{5}{6}$

-----

10.

If a fair coin is tossed three times, what is the probability of getting three tails?

- A.  $\frac{1}{3}$
- B.  $\frac{3}{3}$
- C.  $\frac{3}{8}$
- D.  $\frac{1}{8}$

-----

11.

If the replacement set for  $x$  is  $\{2, 3, 4, 5, 6\}$ , what is the probability that a number chosen at random from the replacement set will make the sentence  $3x + 2 \leq 20$  true?

- A. 1
- B.  $\frac{4}{5}$
- C.  $\frac{1}{2}$
- D. 10

-----

12.

The sections of a spinner are shaded in blue and yellow. The probability that the spinner will land on a blue section is  $\frac{4}{9}$ . What is the probability that the spinner will *not* land on a blue section?

- A.  $\frac{4}{5}$
- B.  $\frac{4}{9}$
- C.  $\frac{5}{9}$
- D.  $\frac{9}{9}$

-----

13.

If the probability of snow tomorrow is  $\frac{2}{5}$ , what is the probability of no snow tomorrow?

- A. 1
- B.  $\frac{2}{5}$
- C.  $\frac{3}{5}$
- D. 0

-----

14.

If a letter is chosen at random from the ten letters in the word "SEQUENTIAL," find the probability that the letter chosen is an "E."

- A.  $\frac{1}{10}$
- B.  $\frac{2}{10}$
- C.  $\frac{5}{10}$
- D. 1

-----

15.

A bag has five green marbles and four blue marbles. If one marble is drawn at random, what is the probability that it is *not* green?

- A.  $\frac{1}{9}$
- B.  $\frac{4}{9}$
- C.  $\frac{5}{9}$
- D.  $\frac{5}{20}$

-----

16.

During a half hour of television programming, eight minutes is used for commercials. If a television set is turned on at a random time during the half hour, what is the probability that a commercial is *not* being shown?

- A. 1
- B.  $\frac{22}{30}$
- C.  $\frac{8}{30}$
- D. 0

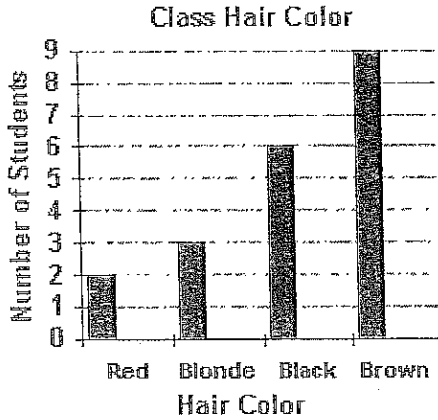
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**Day #10**  
**UNIT TEST**



17.

The graph shows the hair colors of all the students in a class.



What is the probability that a student chosen at random from this class has black hair?

- A.  $5/10$
- B.  $6/20$
- C.  $6/10$
- D.  $9/20$

18.

A bag contains five green marbles and three red marbles. If three marbles are chosen at random without replacement, what is the probability that all three will be green?

- A.  $5/28$
- B.  $15/128$
- C.  $12/21$
- D. 0

19.

If a card from a standard deck of 52 cards is drawn, the probability of choosing a face card or an ace is

- A.  $16/52$
- B.  $12/52$
- C.  $8/52$
- D.  $4/52$

20.

An urn contains four red marbles and five blue marbles. What is the probability of selecting at random, without replacement, two blue marbles?

- A.  $20/81$
- B.  $16/81$
- C.  $20/72$
- D.  $16/72$

21.

If one card is selected at random from a standard deck of 52 cards, what is the probability of choosing a black card or a king?

- A.  $\frac{30}{52}$
- B.  $\frac{22}{52}$
- C.  $\frac{28}{52}$
- D.  $\frac{4}{52}$

22.

If two cards are drawn at random from a standard deck of cards without replacement, which expression represents the probability of drawing two aces?

- A.  $\frac{4}{52} \cdot \frac{4}{52}$
- B.  $\frac{4}{52} \cdot \frac{4}{51}$
- C.  $\frac{4}{52} \cdot \frac{3}{51}$
- D.  $\frac{4}{52} \cdot \frac{3}{52}$

23.

Selena and Tracey play on a softball team. Selena has 8 hits out of 20 times at bat, and Tracey has 6 hits out of 16 times at bat. Based on their past performance, what is the probability that *both* girls will get a hit next time at bat?

- A. 1
- B.  $\frac{14}{36}$
- C.  $\frac{31}{40}$
- D.  $\frac{48}{320}$

-----

24.

The probability that the Cubs win their first game is  $\frac{1}{3}$ .

The probability that the Cubs win their second game is  $\frac{3}{7}$ .

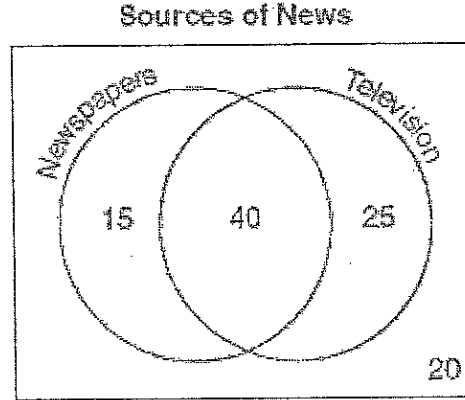
What is the probability that the Cubs win both games?

- A.  $\frac{16}{21}$
- B.  $\frac{1}{7}$
- C.  $\frac{6}{7}$
- D.  $\frac{2}{5}$

-----

25.

The accompanying Venn diagram shows the results of a survey asking 100 people if they get news by reading newspapers or by watching television.



What is the probability that a person selected at random from this survey does *not* claim television as a source of getting the news?

- A.  $\frac{15}{100}$
- B.  $\frac{35}{100}$
- C.  $\frac{55}{100}$
- D.  $\frac{75}{100}$

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