

Unit 4 Test Review

Complete each problem in your notes and check your answers on the following slide.

Complete the table below

Exponential Notation	Repeated Factors	Standard Notation
4^4		
	$2 * 2 * 2 * 2$	
8^2		
	$3 * 3 * 3$	

Exponential Notation	Repeated Factors	Standard Notation
4^4	$4 * 4 * 4 * 4$	256
2^4	$2 * 2 * 2 * 2$	16
8^2	$8 * 8$	64
3^3	$3 * 3 * 3$	27

Simplify:

1) $20 - 8 \div 2^2 \times 3$

2) $(16 - 4 \div 2)^2 \times 3$

1) $20 - 8 \div 2^2 \times 3$

$$20 - 8 \div \underline{2^2} * 3$$

$$20 - 8 \div \underline{4} * 3$$

$$20 - \underline{2 * 3}$$

$$20 - 6$$

$$(14)$$

2) $(16 - 4 \div 2)^2 \times 3$

$$(16 - \underline{4 \div 2})^2 * 3$$

$$(\underline{16 - 2})^2 * 3$$

$$(14)^2 * 3$$

$$196 * 3$$

$$(588)$$

Rewrite each statement as an expression

1) 7 more than the product of 8 and n

2) Half of p , decreased by 4

3) The quotient of triple p and 16

1) 7 more than the product of 8 and n

$$8n + 7$$

2) Half of p, decreased by 4

$$p / 2 - 4 \quad \text{or} \quad 1 / 2 p - 4$$

3) The quotient of triple p and 16

$$3p / 16$$

Rewrite each expression as a statement

1) $9r / 27$

2) $6n - 6$

3) $5w + 7$

1) $9r / 27$

The product of 9 and r, divided by 27

2) $6n - 6$

6 less than the product of 6 and n

3) $5w + 7$

The product of 5 and w, increased by 7

Many solutions, one solution, or no solutions?

1) $5 + p = p + 5$

2) $m + 5 * 3 = m + 5$

3) $7n = 0$

1) $5 + p = p + 5$

Many Solutions

2) $m + 5 * 3 = m + 5$

No Solutions

3) $7n = 0$

One Solution

Write an equation that generalizes the pattern

$$5 * 3 + 2 = 2 + 5 + 5 + 5$$

$$12 * 3 + 2 = 2 + 12 + 12 + 12$$

$$9 * 3 + 2 = 2 + 9 + 9 + 9$$

$$5 * 3 + 2 = 2 + 5 + 5 + 5$$

$$12 * 3 + 2 = 2 + 12 + 12 + 12$$

$$9 * 3 + 2 = 2 + 9 + 9 + 9$$

$$n * 3 + 2 = 2 + n + n + n$$

Find the area of the rectangle using the distributive property. **Write two different equations demonstrating the distributive property.**





$$6(20 + 6) = 156 \text{ inches squared}$$

$$6(20) + 6(6) = 156 \text{ inches squared}$$

Factor out the GCF using the distributive property

1) $18 + 27$

2) $25 + 75$

1) $18 + 27$

$9 (2 + 3)$

2) $25 + 75$

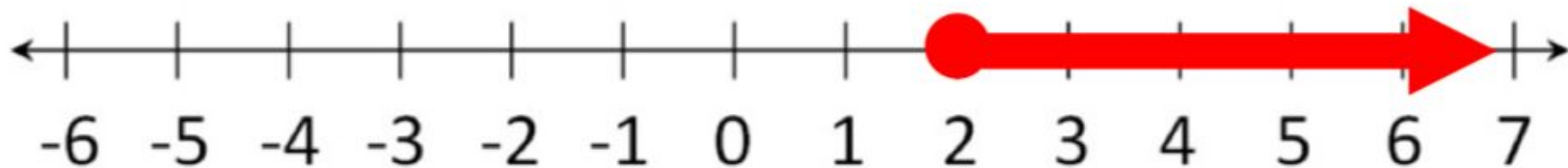
$25 (1 + 3)$

Graph the following inequalities

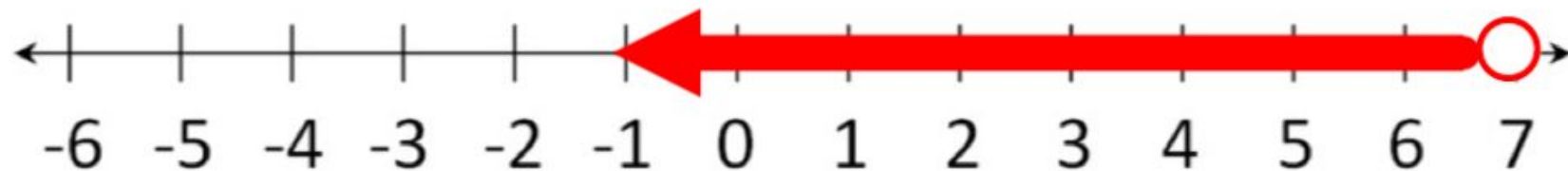
$$x \geq 2$$

$$x < 7$$

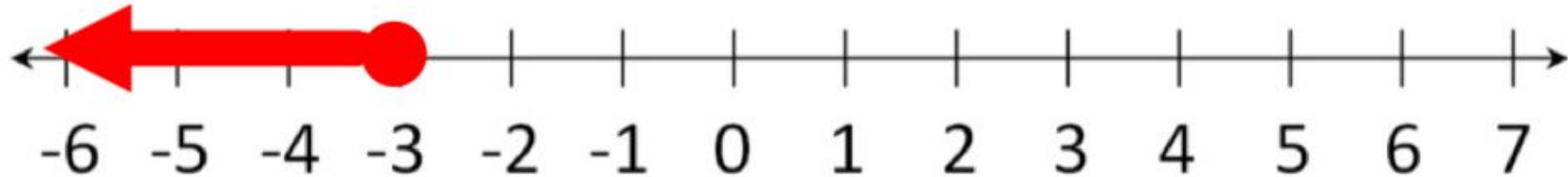
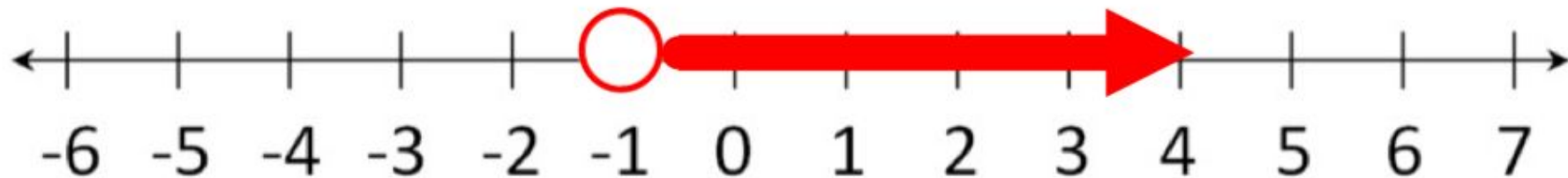
$$x \geq 2$$



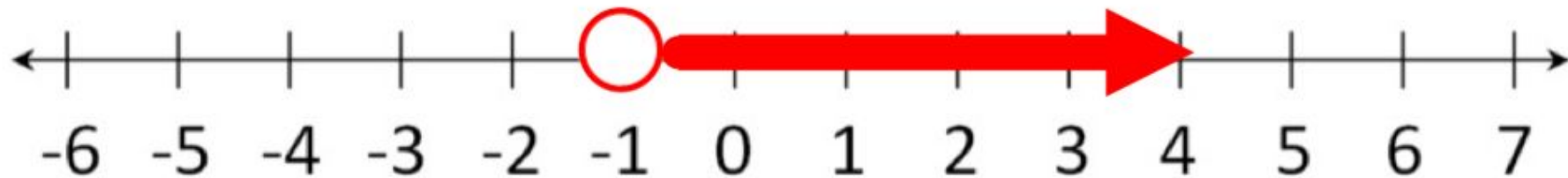
$$x < 7$$



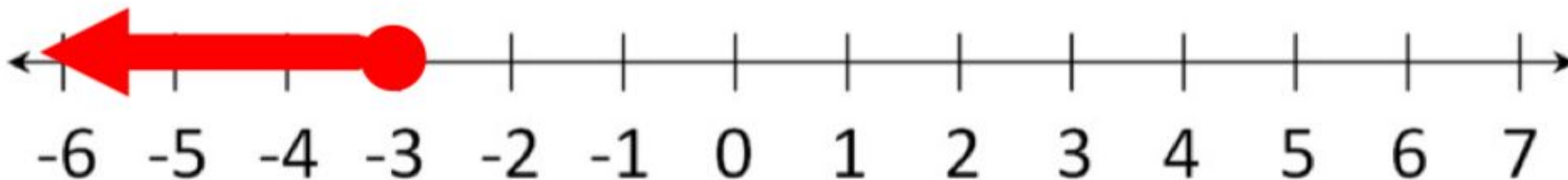
Write the inequality that best represents the graph



$$x > -1$$



$$x \leq -3$$



Simplify:

a.) $|13 - 5|$

b.) $|-22|$

$$\begin{array}{r} \text{a.) } |13 - 5| \\ |8| \\ 8 \end{array}$$

$$\begin{array}{r} \text{b.) } |-22| \\ 22 \end{array}$$

Match the following inequalities with the statements that best represent them:

$$x < 16 : \underline{\hspace{2cm}}$$

$$24 \geq y : \underline{\hspace{2cm}}$$

$$d > 16 : \underline{\hspace{2cm}}$$

$$u \geq 24 : \underline{\hspace{2cm}}$$

- A. A number that is at least 24
- B. Any number 24 or below
- C. A number that is greater than 16
- D. Any number below 16

Match the following inequalities with the statements that best represent them:

$$x < 16 : \underline{\text{D}}$$

$$24 \geq y : \underline{\text{B}}$$

$$d > 16 : \underline{\text{C}}$$

$$u \geq 24 : \underline{\text{A}}$$

- A. A number that is at least 24
- B. Any number 24 or below
- C. A number that is greater than 16
- D. Any number below 16

Show the absolute value of each number below.

1. $|-2| =$

2. $|-3| =$

3. $|-8| =$

Show the absolute value of each number below.

1. $|-2| =$

2. $|-3| =$

3. $|-8| =$

1.) 2

2.) 3

3.) 8

Give 3 possible solutions for each inequality

1.) $18 \leq t$

3.) $y < 9$

2.) $3 > u$

4.) $x \geq 5$

$$1.) \ 18 \leq t$$

$$t = 25$$

$$t = 20$$

$$t = 18$$

$$3.) \ y < 9$$

$$y = 2$$

$$y = 0$$

$$y = 8$$

$$2.) \ 3 > u$$

$$u = -5$$

$$u = -6$$

$$u = 0$$

$$4.) \ x \geq 5$$

$$x = 5$$

$$x = 8$$

$$x = 12$$

Write an inequality to represent each statement:

A) A number that is at most 12

B) A maximum of 45

C) Any number that is less than 7

D) A minimum of 5

Write an inequality to represent each statement:

A) A number that is at most 12 $x < 12$

B) A maximum of 45 $t \leq 45$

C) Any number that is less than 7 $p < 7$

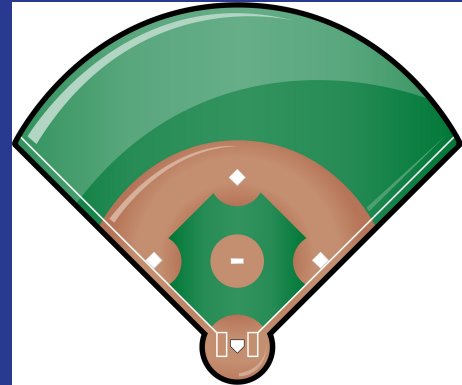
D) A minimum of 5 $d \geq 5$

The maximum number of players on a baseball field is 9

Represent the statement with inequalities:

*Graph the solution set that makes **both** inequalities true.*

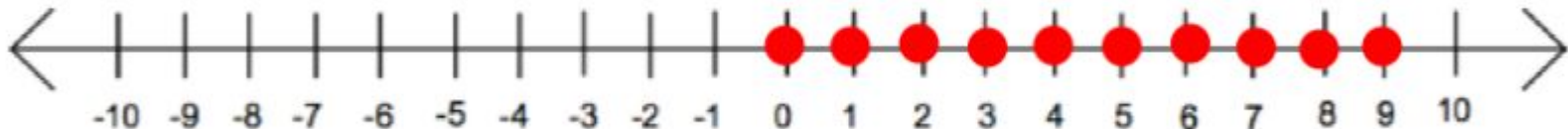
Describe how your graph represents the situation.



The maximum number of players on a baseball field is 9.

$$p \geq 0 \text{ and } p \leq 9$$

There are dots on 0 through 9 because you cannot have less than 0 players on the field, more than 9 people, or fractions/decimals of players.



Write true or false for each statement. Show your work.

a.) $|-1| > 1$

c.) $|-9| \leq 9$

b.) $|-2| \neq 2$

d.) $|-14| \geq |14|$

When you tell your math teacher that
you didn't think you had to show work



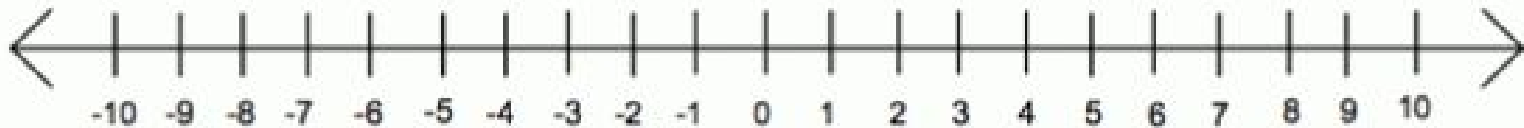
a.) $|-1| > 1$
 $1 > 1$
False

b.) $|-2| \neq 2$
 $2 \neq 2$
False

c.) $|-9| \leq 9$
 $9 \leq 9$
True

d.) $|-14| = |14|$
 $14 = 14$
True

Plot 2 points with an absolute value of 9



Plot 2 points with an absolute value of 9

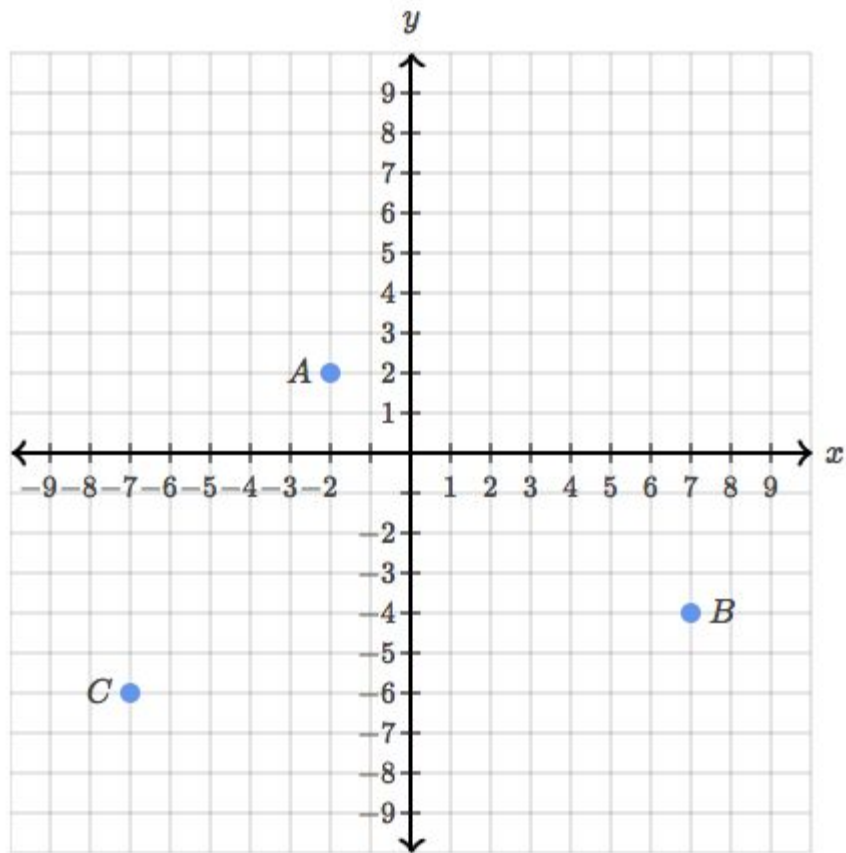


Find the mean absolute deviation of
the following data:

45, 80, 71, 95, 34

Find the mean absolute deviation of the following data

Data	Mean	Distance (Abs Value)
45	65	20
80	65	15
71	65	6
95	65	30
34	65	31
Sum: 325	$325/5 = 65$	$102/5 = 20.4$ (MAD)



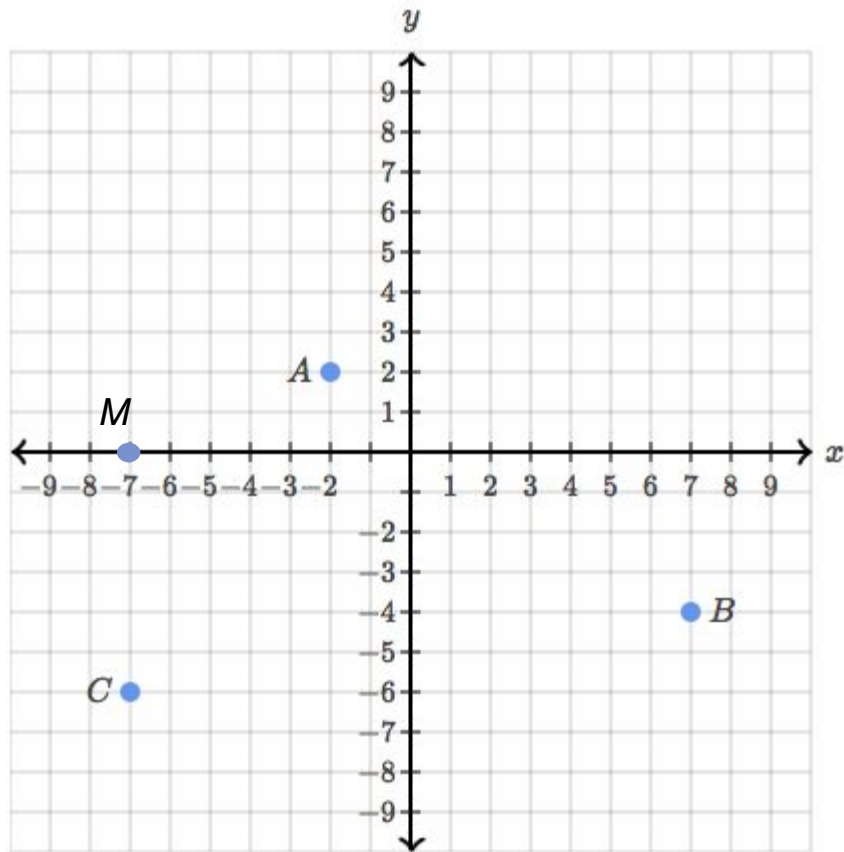
Point M is located at $(-7, 0)$

What is located 6 units from point M ?

☐ Point A

☐ Point B

☐ Point C



Point M is located at $(-7, 0)$

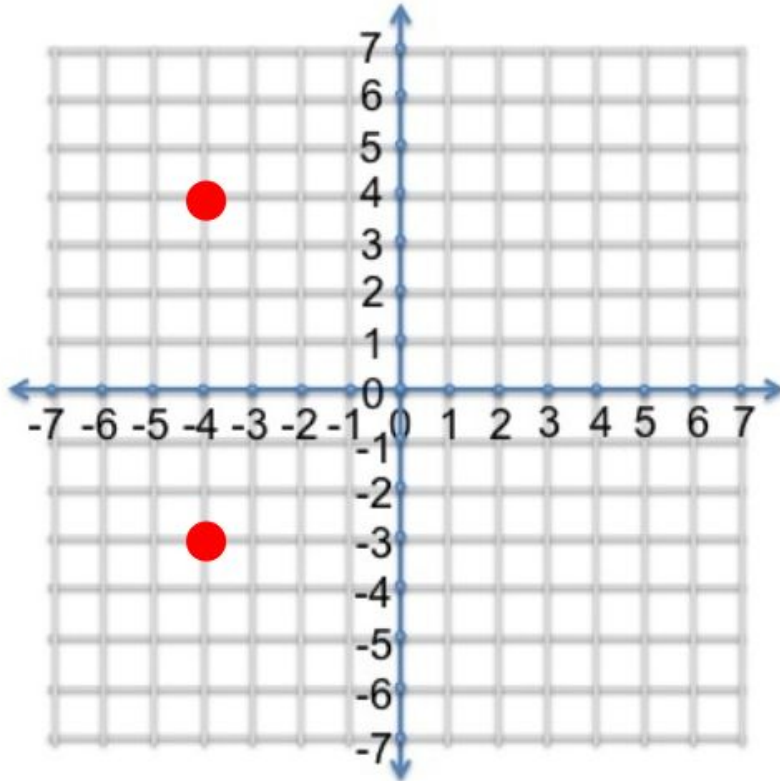
What is located 6 units from point M ?

☐ Point A

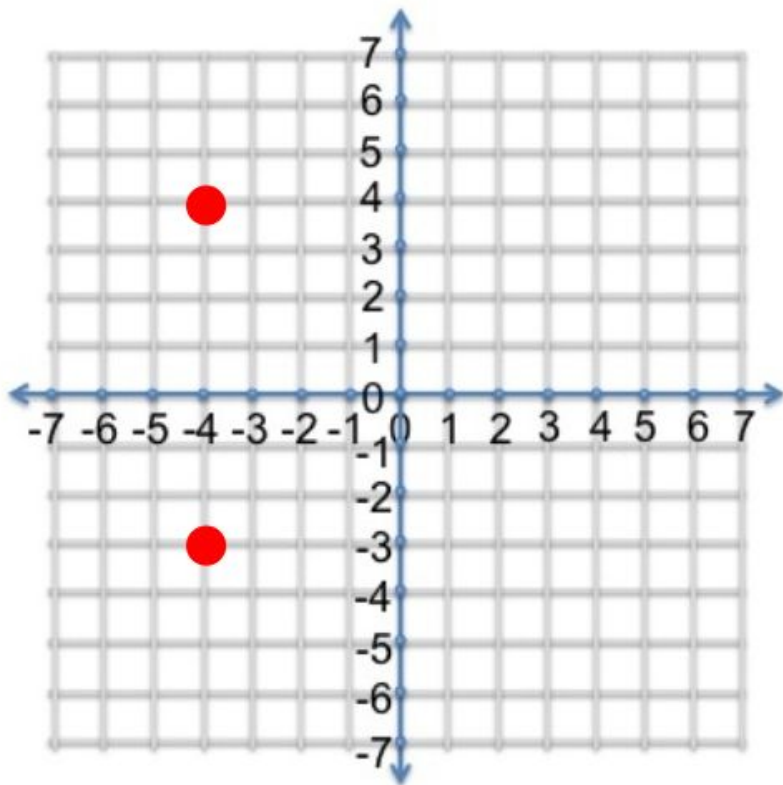
☐ Point B

☒ Point C

What is the distance between the two points?



****Create a number sentence!***



$$|4| + |3|$$

$$4 + 3$$

7 units