

Accentuate the Negative

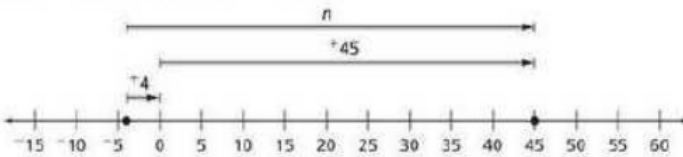
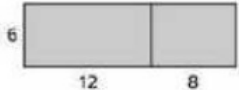


Day	Topic	Homework	IXL**	Grade
1	Inv 1.1	Worksheet 1	B.1	
2	Inv 1.2	Worksheet 2	B.2	
3	Inv 1.3	Worksheet 3	B.3	
4	Inv 1.4	Worksheet 4	B.4	
5	Inv 2.1	Worksheet 5	B.5	
6	Inv 2.2	Worksheet 6	C.1	
7	Inv 2.3	Worksheet 7	C.2	
8	Inv 2.4	Study for quiz	C.3	
9	Quiz	Worksheet 8	C.4	
10	Multiplication	Worksheet 9	C.5	
11	Division	Worksheet 10	C.6	
12	Number Line	Worksheet 11	C.7	
13	Mixed numbers and Decimals	Worksheet 12	C.8	
14	Practice	Review Packet	C.9	
15	Review	Study for Test		
16	Unit Test	none		



Name: _____

**All IXL assignments due by the day before the test (9/30) with a score of 70 or better.

Important Concepts	Examples
<p>Negative Numbers Some subsets of the positive and negative numbers have special names.</p>	<p>The set of the whole numbers and their opposites is called integers. Examples include: $-4, -3, -2, -1, 0, 1, 2, 3, 4$</p> <p>The positive and negative integers and fractions are rational numbers. Examples include: $-2, -1.5, -1\frac{2}{3}, -1, -\frac{3}{4}, -\frac{1}{2}, 0, \frac{1}{2}, \frac{3}{4}, 1, 2, 2.5, 2\frac{3}{4}$</p>
<p>Addition and Subtraction Students model and symbolize problems to develop meaning and skill in addition and subtraction before developing algorithms.</p> <p>The colored chip model requires an understanding of opposites.</p> <p>The number line model helps make the connection to rational numbers as quantities.</p> <p>Sometimes it is helpful to restate an addition problem as a subtraction or a subtraction problem as an addition.</p>	<p>One color chip (black) represents positive numbers and another color (red) represents negative numbers.</p> <p><i>Tate owes his sister, Julia, \$6 for helping him cut the lawn. He earns \$4 delivering papers. Is Tate "in the red" or "in the black"?</i></p> <p>Black and red chips on a board represent income and expenses. The result is that he is "in the red" 2 dollars or has -2 dollars. This problem may be represented with the number sentence $-6 + 4 = -2$.</p> <p>The number line below models a temperature change from -4°F to $+45^{\circ}\text{F}$. The sign of the change shows the direction of the change.</p> <p>$-4^{\circ} + n^{\circ} = +45^{\circ}$ or $-4^{\circ} + ^{\circ}49 = +45^{\circ}$</p>  <p>When calculating $+12 + -8$, the result is the same as if you subtracted $+8$ in the problem $+12 - +8$. When calculating $+5 - -7$, the result is the same as if you added $+7$ in the problem $+5 + +7$.</p>
<p>Multiplication Multiplication can be explored by counting occurrences of fixed-size movement along the number line.</p>	<p><i>If a runner passes the 0 point running to the left at 6 meters per second, where will he be 8 seconds later?</i></p> <p>This can be represented as 8 jumps of -6 on the number line.</p> <p>$-6 + -6 + -6 + -6 + -6 + -6 + -6 + -6 = -48$ or $8 \times -6 = -48$</p>
<p>Division A multiplication fact can be used to write two related division facts.</p>	<p>You know that $5 \times -2 = -10$. You can write related division sentences: $-10 \div -2 = 5$ and $-10 \div 5 = -2$. By developing division based on its relationship to multiplication, students can determine the sign (positive or negative) of the answer to a division problem.</p>
<p>Order of Operations Mathematicians have established rules for the order in which operations (+, -, ×, ÷) should be carried out.</p>	<ol style="list-style-type: none"> 1. Compute any expressions within parentheses. $3 + 4 \times (6 + 2) \times 5 - 7^2 + 6 \div 3 =$ 2. Compute any exponents. $3 + 4 \times 3 \times 5 - 7^2 + 6 \div 3 =$ 3. Do all multiplication and division in order from left to right. $3 + 4 \times 3 \times 5 - 49 + 6 \div 3 =$ $3 + 60 - 49 + 2 =$ 4. Do all addition and subtraction in order from left to right. $63 - 49 + 2 =$ $14 + 2 = 16$
<p>Commutative Property This property does not hold for subtraction or division.</p>	<p>The order of addends does not matter. $5 + 4 = 4 + 5$ $-2 + 3 = 3 + (-2)$</p> <p>The order of factors does not matter. $5 \times 4 = 4 \times 5$ $-2 \times 3 = 3 \times (-2)$</p> <p>Order does matter in subtraction. $5 - 4 \neq 4 - 5$ $-2 - 3 \neq 3 - (-2)$</p> <p>Order does matter in division. $5 \div 4 \neq 4 \div 5$ $-2 \div 3 \neq 3 \div (-2)$</p>
<p>Distributive Property This property is introduced and modeled through finding areas of rectangles.</p>	<p>This property shows that multiplication <i>distributes</i> over addition.</p> <p>$6 \times (12 + 8) = (6 \times 12) + (6 \times 8)$</p> 

Date: 9/11/18

Day 1

Inv 1.1

SB	RS	KA
-300	150	-500

A) 1) Which team has the highest score? Which team has the lowest score? How do you know?

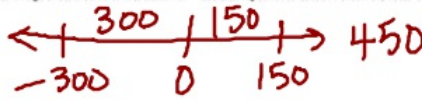
RS
150
only positive
score

KA
-500 is farther
from 0 than -300

2) Find the difference in points for each pair of teams. Can you write number sentences?

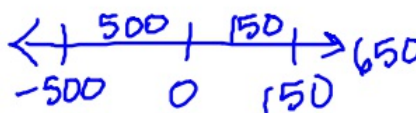
how many
points to
catch up

SB ↔ RS
-300 150



$$150 - (-300) = 450$$

RS ↔ KA
150 -500



$$150 - (-500) = 650$$

SB ↔ KA
-300 -500



$$-300 - (-500) = 200$$

B) 1) Write number sentences for each team and find the new score.

a) SB $-300 + 200 - 150 + 50 + 50 = -150$
 -100 250

b) RS $150 - 50 - 200 + 100 - 150$
 100 -100 0 -150

$50 + 200 + 150 = 400$ lost
 $100 + 150 = 250$

$250 - 400 = -150$

2) Now who has the highest and lowest score?

3) Find the difference in points for each pair of teams.

D) What score goes in the box?

E) 1) Find a pair of numbers that have a sum of -150.

$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = -150$$

2) Does the order of the addends matter? What property is this?

F) Who is correct? Rewrite both number sentences in your notes.

Date: 9/12/18

Day 2

Inv 1.2

Read!
p. 11

Rational numbers: (first 5 letters are ratio)

Any number that can be written as a fraction

Opposites: Numbers that are the same distance from 0 but are on opposite sides

You find an opposite by changing the sign

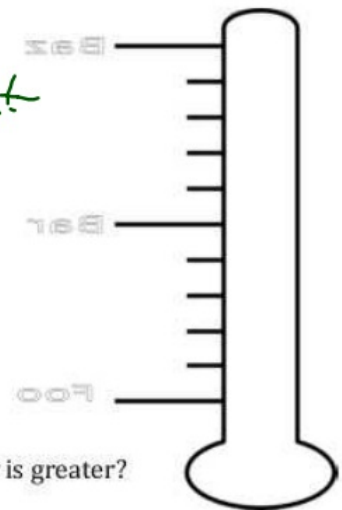
A) 1) Estimate values for points A through E then state the number's opposite.

A -7 B -4 C $-1\frac{1}{2}$ D $+4\frac{1}{2}$ E $6\frac{3}{4}$

Opposites: A 7 B 4 C $1\frac{1}{2}$ D $-4\frac{1}{2}$ E $-6\frac{3}{4}$

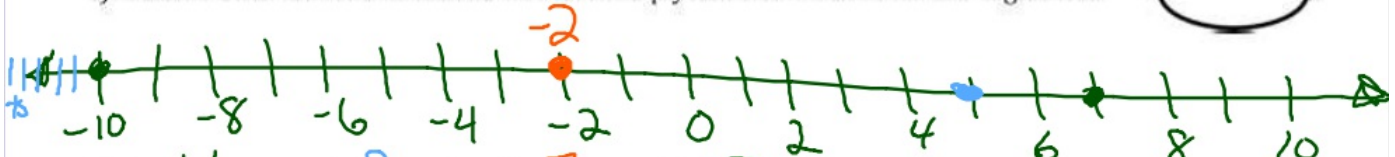
3) Use the thermometer to the right. List from smallest to largest.
How did you know where to put the numbers?

-32.7, -32.5, -15, 0, 40, 113.2, 115



5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

4) How do a number line and a thermometer help you decide which number is greater?

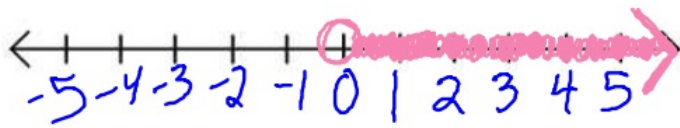


B) 1) +6 2) Same 3) -7 4) +7

C) 1) $+5^{\circ}\text{F}$ 2) ~~$+10^{\circ}\text{F}$~~ 3) -10°F 4) 0°F

-5 | +15
5 0 15

E) 1) x is positive $x > 0$



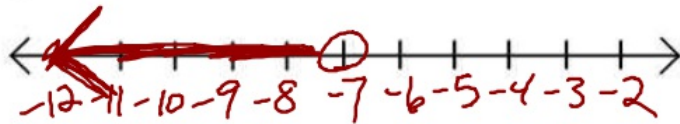
open circle
no equal to

2) x is less than or equal to -5

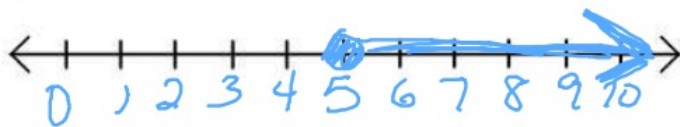


$x \leq -5$
closed circle
equal to

3) $x < -7$

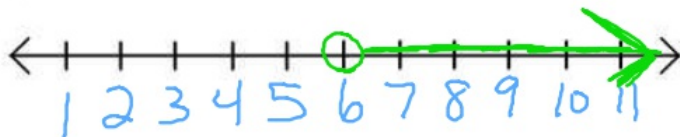


4) $x \geq 5$



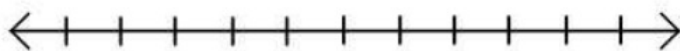
Any number greater
than or equal to 5

5) $6 < x$



Six is less than
any number

F) 3) $3x < 9$



Date: 9/14/18

Day 3

Inv 1.3

Read p. 14-15

What does n represent? *the change in temperature*

What does the number sentence $120 + n = -20$ tell you?

Start @ 120° (same) and add some change in temperature to get to -20° (outside)

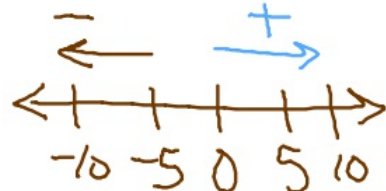
What does the number sentence $-20 + n = 120$ tell you?

Start @ -20° (outside) and add some change in temperature to get 120°

ON A NUMBER LINE

Moving left means you are

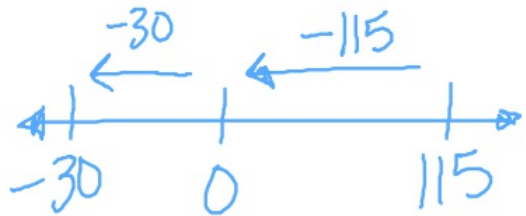
going negative



Moving right means you are

going positive

NO NUMBER LINES - focus on number sentences



A) $115 \rightarrow -30$ What is the change?

$$115 + -145 = -30$$

B) Start at 25

1) rise 10

2) fall 2

3) fall 30

$$25 + 10 = 35^\circ$$

$$35^\circ - 2 = 33^\circ$$

$$33 - 30 = 3^\circ$$

C) Start at -15

1) +3

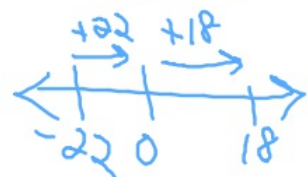
2) -10

3) +40

$$-15 + 3 = -12^\circ$$

$$-12 - 10 = -22^\circ$$

$$-22 + 40 = 18^\circ$$



D) 1) 20 to -10

2) -20 to -10

3) -20 to 10

4) -10 to -20

5) 20 to 10

6) 10 to 20

E) 1)

2)

Date: 9/17/18

Day 4

Inv 1.4

A) 1) original $8B + 12R = 4R = -4$

2) add 5 black
 $8B + 12R + 5B = 1B = +1$

3) remove 5 red
 $8B + 12R - 5R = 1B = +1$

4) remove 3 black
 $8B + 12R - 3B = 7R = -7$

5) add 3 red
 $8B + 12R + 3R = 7R = -7$

6) What do you notice?

- take away 3B and +3R gives same answer
- $\text{ans} = 7 \rightarrow R$ $\text{ans} = 1 \rightarrow B$
- +5B and -5R gave same answer
- Started w/ 8B and 12R for all.

B) 1) Describe three ways to get a total value of -2.

C) Give **one** combination of chips that will equal each value.

1)

2)

3)

4)

D) Find the missing for each.

Start with	Rule	End with	Number sentence
RRR	Add 5 B		
RRB	Subtract 3 R		
RRRRRR		RR	
	Subtract 3 R	BBBB	

E) Find the missing value for each. Write or draw what would be on the chip board.

1) $+3 - +2 =$

2) $-4 - +2 =$

3) $-4 - -2 =$

4) $+7 + \quad = +1$

5) $-3 - +5 =$

6) $--2 = +6$

F) Explain.

Day 5

Glue all of your sectors on this side of the paper.



The more cuts we have, the closer the shape gets to a parallelogram.

$$A = bh$$

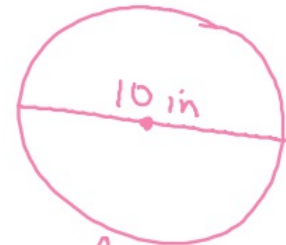
height is radius of circle

$$b = \frac{1}{2} \text{ of Circumference}$$

$$A = \frac{1}{2} \text{ of Circumference} \cdot \text{radius}$$

$$A = \frac{1}{2} \cdot 2\pi r \cdot r$$

$$A = \pi r^2$$



$$r = \frac{d}{2} = \frac{10}{2} = 5 \text{ in}$$

Find area.

$$A = \pi r^2$$

$$A = \pi(5)^2$$

$$A = 25\pi \text{ in}^2$$

$$A \approx 78.5 \text{ in}^2$$

exact

rounded
to
tenths

The more sectors you create the more the shape looks like a _____.

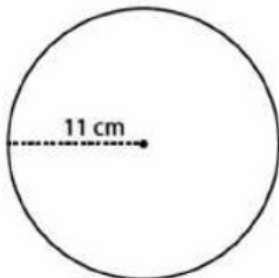
The formula for the area of this shape is:

We know that the dimensions of this shape are related to the dimensions of the circle.
Here is the list:

So the formula for the area of a circle is:

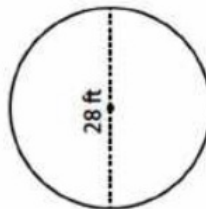
Examples: (Round to the nearest hundredth.)

1)



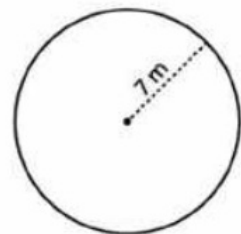
Area =

2)



Area =

3)



Area =

Day 6 – Circumference to Area and Back Again

The radius of a circle is 13 inches. Find the circumference and area. Leave your answer in terms of π .

Given
 $r = 13 \text{ in}$
 $d = 2r = 2(13)$
 $= 26 \text{ in}$

$$C = \pi d$$

$$C = \pi(26)$$

$$C = 26\pi \text{ in}$$

$$A = \pi r^2$$

$$A = \pi(13)^2$$

$$A = 169\pi \text{ in}^2$$

Complete the table below.

Sidelengths
Area

Root	1	2	3	4	5	6	7	8	9	10	11	12
Perfect Square	1	4	9	16	25	36	49	64	81	100	121	144

$$\frac{4}{2}$$

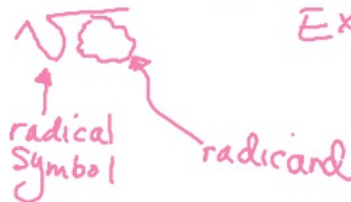
Perfect Square:

a number that is the result of multiplying a number by itself.

$$\begin{array}{r|l} 13 & 14 & 15 \\ \hline 169 & 196 & 225 \end{array}$$

Square Root:

undo squaring



Ex: $\sqrt{100}$ "the square root of 100"

$$\sqrt{100} = 10 \text{ because } 10 \cdot 10 = 100$$

$$\sqrt{256} = 16 \text{ because } 16 \cdot 16 = 256$$

The circumference of a circle is 15π meters. What is the radius?

Given
 $C = 15\pi \text{ m}$

$$C = \pi d$$

$$\frac{15\pi}{\pi} = \frac{\pi d}{\pi}$$

$$15 = d$$

$$r = \frac{d}{2} = \frac{15}{2} = 7.5 \text{ m}$$

The circumference of a circle is 53.6 centimeters. Find the diameter of the circle to the nearest tenth.

Given
 $C = 53.6 \text{ cm}$

$$C = \pi d$$

$$53.6 = \pi d$$

$$\frac{53.6}{\pi} = \frac{\pi d}{\pi}$$

$$17.0614099 = d$$

$$d \approx 17.1 \text{ cm}$$

The area of a circle is 25π square miles. What is the radius?

Given
 $A = 25\pi \text{ mi}^2$

$$A = \pi r^2$$

$$25\pi = \pi r^2$$

$$\frac{25\pi}{\pi} = \frac{\pi r^2}{\pi}$$

$$\sqrt{25} = \sqrt{r^2}$$

$$r = 5 \text{ mi}$$

The area of a circle is 113 square inches. What is the radius? Round your answer to the nearest hundredth.

$$A = 113 \text{ in}^2$$

$$A = \pi r^2$$

$$113 = \pi r^2$$

$$\frac{113}{\pi} = \frac{\pi r^2}{\pi}$$

$$\sqrt{35.96901714} = \sqrt{r^2}$$

$$r \approx 6.00 \text{ in}$$

The circumference of a circle is 54.3 yards. What is the area to the nearest tenth?

Given
 $C = 54.3 \text{ yds}$

$$C = \pi d$$

$$54.3 = \pi d$$

$$\frac{54.3}{\pi} = \frac{\pi d}{\pi}$$

$$17.28422682 = \frac{d}{2}$$

$$8.64211341 = r$$

$$A = \pi r^2$$

$$A = \pi (8.64211341)^2$$

$$A = 234.6333791$$

$$A \approx 234.6 \text{ yds}^2$$

The area of a circle is 23 square millimeters. What is the circumference to the nearest hundredth?

Given
 $A = 23 \text{ mm}^2$

$$A = \pi r^2$$

$$23 = \pi r^2$$

$$\frac{23}{\pi} = \frac{\pi r^2}{\pi}$$

$$7.32112735 = r^2$$

Day 7 – Volume of a Cylinder

The volume of any prism is:

$$V = BH$$

area of base

height of prism
(distance between the bases)

We know that the base of a cylinder is a circle. The area is:

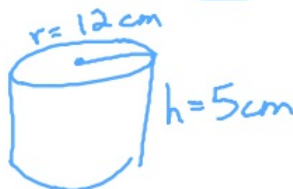
$$A = \pi r^2$$

So the volume of a cylinder is:

$$V = \pi r^2 h$$

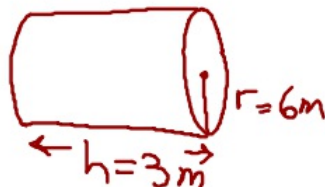


Ex 1: The radius of a cylinder is 12 cm and its height is 5 cm. Find the volume rounded to the nearest hundredth.



$$V = \pi r^2 h$$
$$V = \pi (12)^2 (5)$$
$$V \approx 2261.95 \text{ cm}^3$$

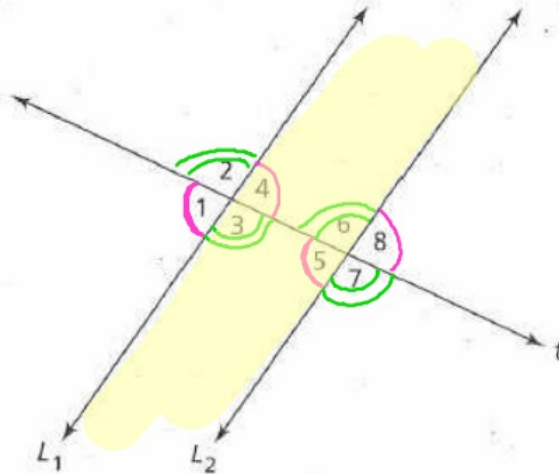
Ex 2: The radius of a cylinder is 6 m and its height is 3 m. Find the volume rounded to the nearest tenth.



$$V = \pi r^2 h$$
$$V = \pi (6)^2 (3)$$
$$V \approx 339.3 \text{ m}^3$$

Day 5 – Algebra in Geometry

Lines L_1 and L_2 are parallel.



$\angle 1$ and $\angle 8$ are alternate exterior angles

$\angle 3$ and $\angle 6$ are alternate interior angles.

1. Name two pairs of alternate interior angles.

$\angle 3$ and $\angle 6$ $\angle 4$ and $\angle 5$

2. Name four pairs of vertical angles.

$\angle 1$ and $\angle 4$ $\angle 5$ and $\angle 8$ $\angle 6$ and $\angle 7$ $\angle 2$ and $\angle 3$

3. Name four pairs of corresponding angles.

$\angle 1$ and $\angle 5$ $\angle 4$ and $\angle 8$ $\angle 2$ and $\angle 6$ $\angle 3$ and $\angle 7$

4. Name four angles that are supplementary to $\angle 4$.

$\angle 2, \angle 3, \angle 6, \angle 7$

5. The measure of $\angle 1$ is 80° . Find the measures of the other angles.

$$m\angle 1 = m\angle 4 = m\angle 5 = m\angle 8 = 80^\circ$$

$$m\angle 2 = m\angle 3 = m\angle 6 = m\angle 7 = 100^\circ$$

$$\begin{array}{r} 180 \\ - 80 \\ \hline 100 \end{array}$$

6. **Multiple Choice** What is the reason that $\angle 5$ and $\angle 6$ do not form a pair of alternate interior angles?

A. They are not alternate angles.

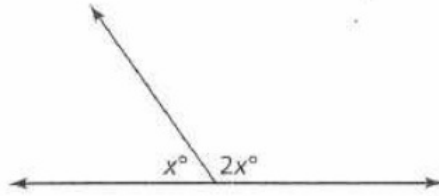
B. They are not interior angles.

C. They share the same vertex.

D. They are not supplementary.

7.

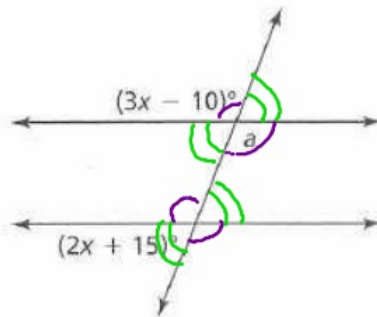
Find the value of x .



$$\begin{array}{r} x + 2x = 180 \\ 3x = 180 \\ \hline 3 \quad \quad 3 \\ \hline x = 60 \end{array}$$

8.

Two parallel lines are cut by a transversal.



Find the measure of angle a .

$$\begin{array}{l} 3x - 10 \\ 3(35) - 10 \\ \hline 95^\circ \end{array}$$

$$\begin{array}{r} 3x - 10 + 2x + 15 = 180 \\ 5x + 5 = 180 \\ -5 \quad -5 \\ \hline 5x = 175 \\ \hline 5 \quad \quad 5 \\ \hline x = 35 \end{array}$$

4) a) For what number of T-shirts is the cost of the two companies equal? What is the cost?

$$\begin{array}{r}
 C_M = C_N \\
 49 + n = 4.5n \\
 \underline{-n \quad -n} \\
 49 = 3.5n \\
 \underline{3.5 \quad 3.5} \\
 14 = n
 \end{array}$$

14 shirts

$$C_M = 49 + n = 49 + 14 = \$63$$

$$C_N = 4.5n = 4.5(14) = \$63$$

b) How can this information be used to decide which plan to choose?

If I buy less than 14 shirts, go to NoShrink.

If I buy more than 14 shirts, go to Mighty.

5) Explain why the relationship between the cost and the number of T-shirts for each company is a linear relationship.

$$\begin{array}{l}
 y = \underline{\quad} x + \underline{\quad} \\
 C_N = 4.5n + 0
 \end{array}$$

They both had a constant rate of change.

B) The table below represents the costs from another company, The Big T.

n	0	1	2	3	4	5	6	7	8	9	10
C	34	36.5	39	41.5	44	46.5	49	51.5	54	56.5	59

1) Compare the costs for this company with the costs for the two companies in Question A.

\$34 up front fee.

\$2.50 per shirt

2) Does this plan represent a linear relationship? Explain.

Yes, it is linear because it has a constant rate of change.

3) a) Could the point (20, 84) lie on the graph of this cost plan? Explain.

b) What information about the number of T-shirts and cost do the coordinates of the point (20, 84) represent?

20 shirts would cost \$84.

c) equation?

$$C_T = \underline{2.50n} + \underline{34}$$

d) (20,80)

Inv 2.4

Amount earned (\$) distance walked (km)

$$y = 5x - 3$$

$$\text{if } x=4 \quad y=5(4)-3=17$$

$$\text{if } x=-2 \quad y=5(-2)-3=-13$$

A) Plan 1: $y = 5x - 3$

1) What information does the equation give about the pledge plan? Does the plan make sense? No.

5: \$5 per km

-3: \$3 no matter what

Owe \$3 if I walk 0 km

2) Make a table of values from -5 to 5.

x	-5	-4	-3	-2	-1	0	1	2	3	4	5
y	-28	-23	-18	-13	-8	-3	2	7	12	17	22

3) Sketch a graph.

4) Do the y-values increase, decrease, or stay the same as the x-values increase?

INCREASE

Plan 2: $y = -x + 6$

What information does the equation give about the pledge plan? Does the plan make sense? No.

-1: Owe \$1 per km

6: \$6 no matter what

\$6 for walking 0 km

2) Make a table of values from -5 to 5.

x	-5	-4	-3	-2	-1	0	1	2	3	4	5
y	11	10	9	8	7	6	5	4	3	2	1

3) Sketch a graph.

4) Do the y-values increase, decrease, or stay the same as the x-values increase?

DECREASE

Plan 3: $y = 2$

What information does the equation give about the pledge plan? Does the plan make sense? No.

2: \$2 no matter what

\$2 when I walk 0 km.

0: \$0 per km

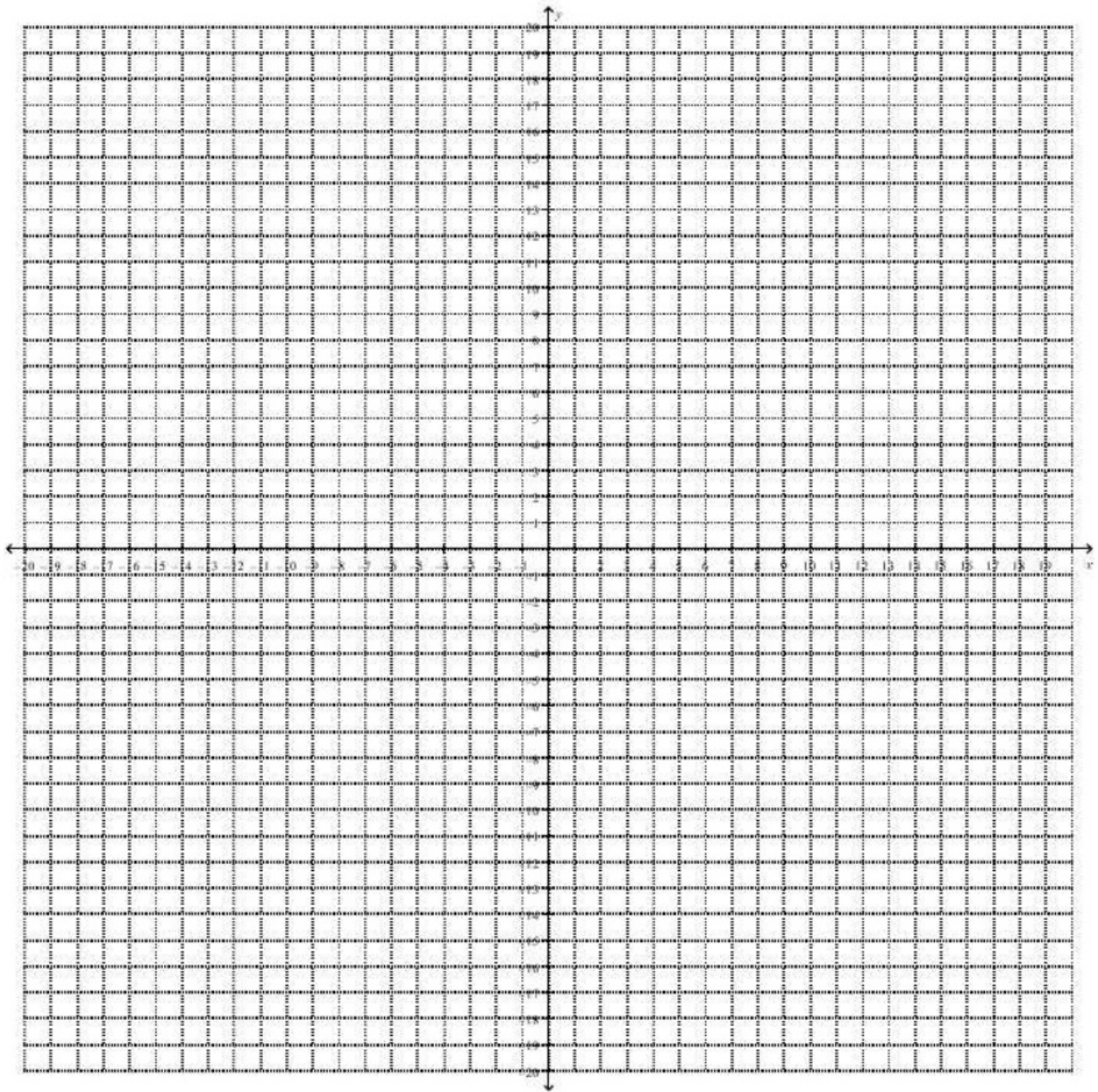
2) Make a table of values from -5 to 5.

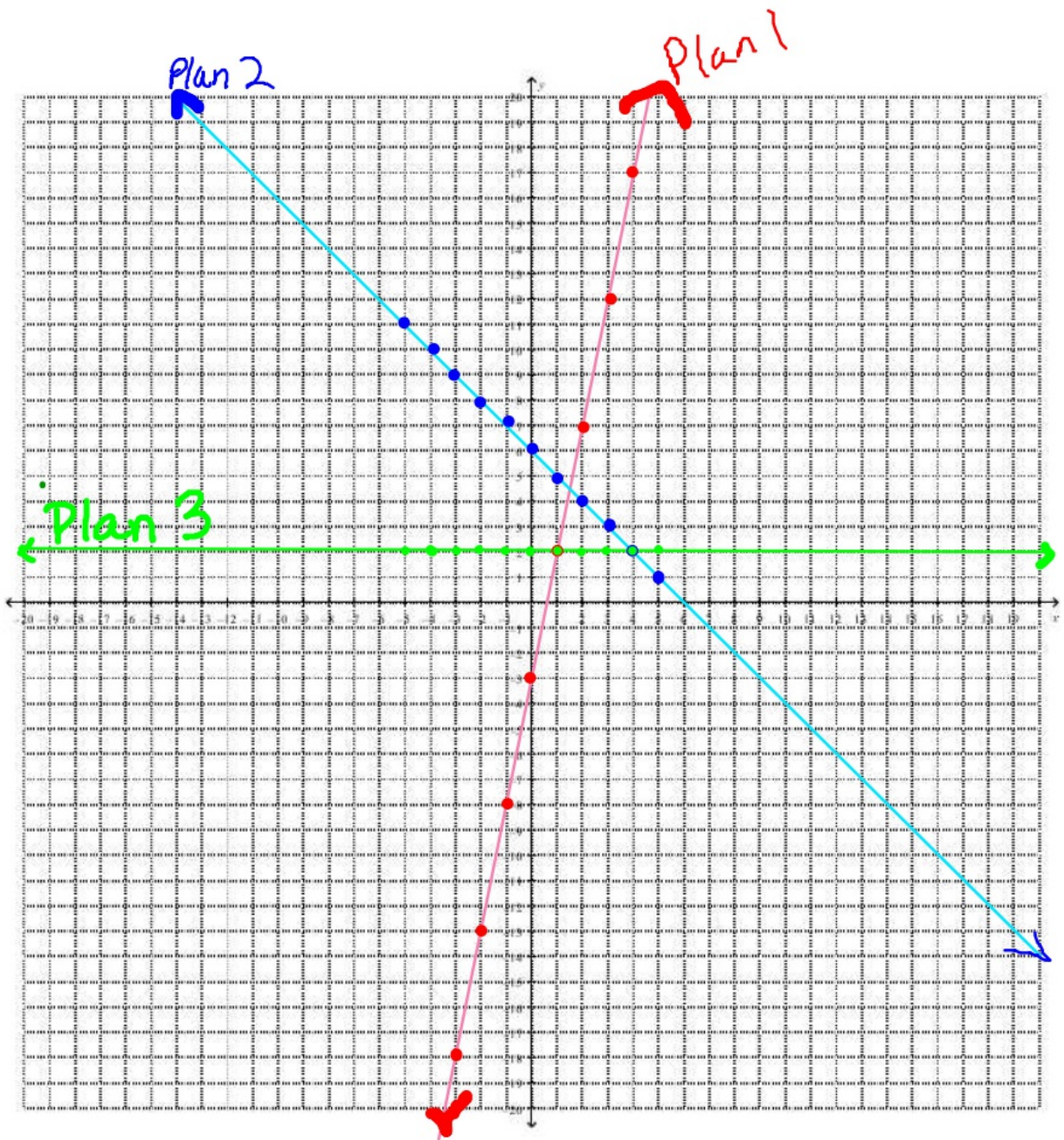
x	-5	-4	-3	-2	-1	0	1	2	3	4	5
y	2	2	2	2	2	2	2	2	2	2	2

3) Sketch a graph.

4) Do the y-values increase, decrease, or stay the same as the x-values increase?

STAY THE SAME





B) 1) (2,4)

2) relate to table?

Relate to equation?

C) 1) $8 = 5x - 3$

2) How does finding the value of x help you find the coordinates for a point on the graph?

D) (-7,13) (1.2,) (, -4)

1) work:

2) question for (1.2,)

E) 2) $y = 5x - 3$

a) $x = 7$, find y .

b) $y = 23$, find x

$$y = mx + b$$

$$y = \frac{\text{rate}}{\text{per}} X + \frac{\text{Starting Amount/point}}{\text{no matter what added to } x}$$

multiplied by x

skipcount

y value when x=0

$\frac{\text{rise}}{\text{run}}$

slope

rise over the run

y-intercept

the point where the line crosses the y-axis

$$\frac{\Delta y}{\Delta x} = \frac{\text{change in } y}{\text{change in } x}$$