

NAME _____

NTI DAY #7 Period _____

(weather-closed school day)

Thomas Math Resource 8 & _____

PACKET

SEVEN

(Math)

General Directions:

Due to weather, Harrison County Schools are closed. In an effort to utilize this day on the school calendar, your child is assigned and should work on this "packet" of school work today. It will count as a grade for this subject. The work attached is specific to the subject listed above. Please contact your child's teacher of this subject at 234-7123 in the event you/your student have questions on this packet. Staff and teachers reported to HCMS today and are available should you have questions.

Harrison County Schools

Non-Traditional Instruction

Snow Plan 2017-18

Due to the large number of weather related days of school closures, the Kentucky Department of Education has granted school districts across the state permission to implement "Non Traditional Instruction" (NTI) days. The Harrison County Board of Education approved all Harrison County Schools the opportunity to experiment with this option during the 2017-18 school year.

WHAT IS NON-TRADITIONAL INSTRUCTION? (NTI)

Non Traditional Instruction allows for learning at home when students miss regular instruction due to weather/extraordinary circumstances. Students will have the chance for skill review, remediation, and enrichment through technology or paper packets. Packets will be sent home by December 1. The work that is assigned on a NTI day will be that of review or enrichment. Examples of work will be informational reading, math fact fluency, college and career readiness, etc.

WHEN WILL A NTI DAY BE CALLED?

A NTI day will be used if it is determined that a large majority of the roads are safe to travel, but an extra day or two is needed for some of our 'hard to melt' roads. When a NTI day is called, students will work from home on their assigned lessons found in their NTI packet or online. Harrison County Schools may use up to 10 NTI days. However, this is unlikely as we feel the use of NTI days should be at the minimum. The number of days missed due to weather will help determine how many NTI days are enacted.

HOW WILL I KNOW HARRISON COUNTY SCHOOLS ARE HAVING A NTI DAY?

A *Community Safe* one call will be made to all parents and staff announcing a NTI day. Lexington television stations, WCYN radio and the Cynthiana Democrat will also be alerted. Harrison County Schools will place this information on its website, as well on Facebook and Twitter. You can always call your child's school or the Harrison County Board office to ask if the day missed is a regular snow day or a NTI day.

WHAT IS THE ACCOUNTABILITY OF MY STUDENT ON A NTI DAY?

Students will be required to complete all tasks assigned during a NTI day. All NTI work will be due by the end of the 9 week grading period in which the NTI day was called. If a NTI day is called within the last five (5) student days of a nine (9) week grading period, work will be due the last day of the next 9 weeks. * Advanced Placement Courses/Dual Credit courses are exempted from this schedule, as their deadlines are determined by instructor on a course by course basis.

The completion of the NTI assignments counts for the student's attendance for that day. The completion of the NTI work means one less summer make up day for students will have to be enacted.

WHEN WILL MY CHILD'S TEACHER BE AVAILABLE ON A NTI DAY?

Staff will be available from 9:00 a.m. until 11:30 a.m. and from 12:30 p.m. until 3:00 p.m. Teachers will be available via e-mail or students can call their school and leave a message for their teacher to call them back. Other forms of communication may be used at the discretion of the teacher.

Hello All!

Included in this Resource
class math packet is content we
have already covered in 8th grade.

☼ you will need a calculator.

1.) Writing Equations of line'

video help: google search:

writing equation of a line - mathhelp.com

2.) Writing Equations from word problems

video help: google search:
writing ^{Linear} equations in
slope intercept form

Per
Each
Every
An
A



3.) Rule of 4

4.) Pythagorean Theorem OR Translations
(notes provided)

(notes provided
+ Ex)

miss you all ♡ → "stay safe, stay well
look out for each other"
♡ Mrs Thomas

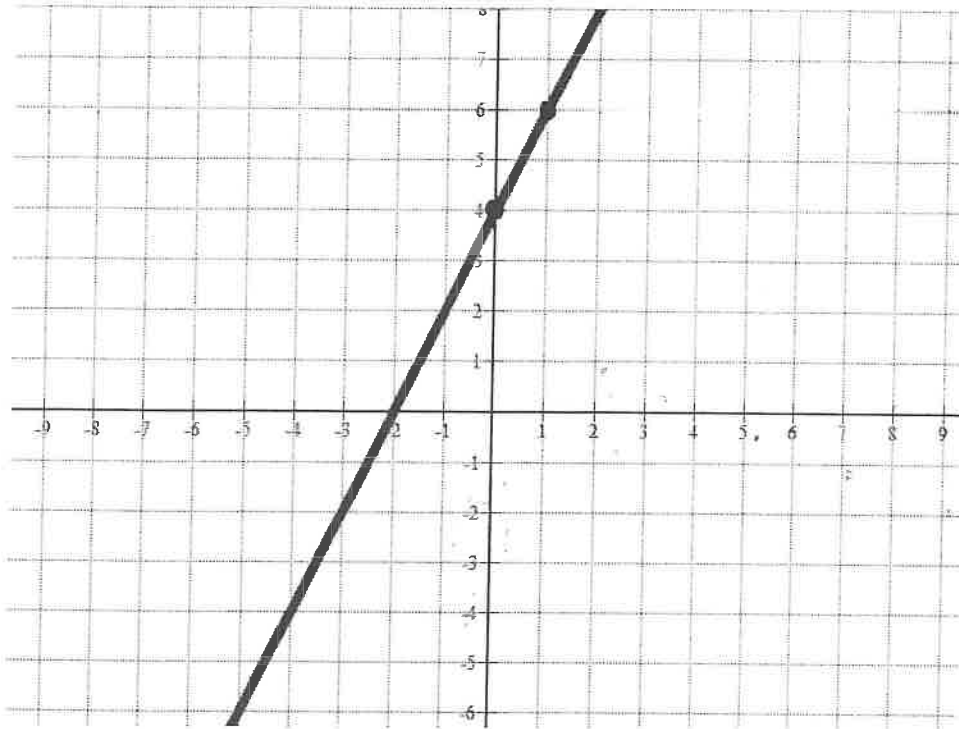
Starter

Homework: Writing Equations of Graphs
in Standard Form
Algebra I 2009 SOL

Name _____

Date 10/30/18

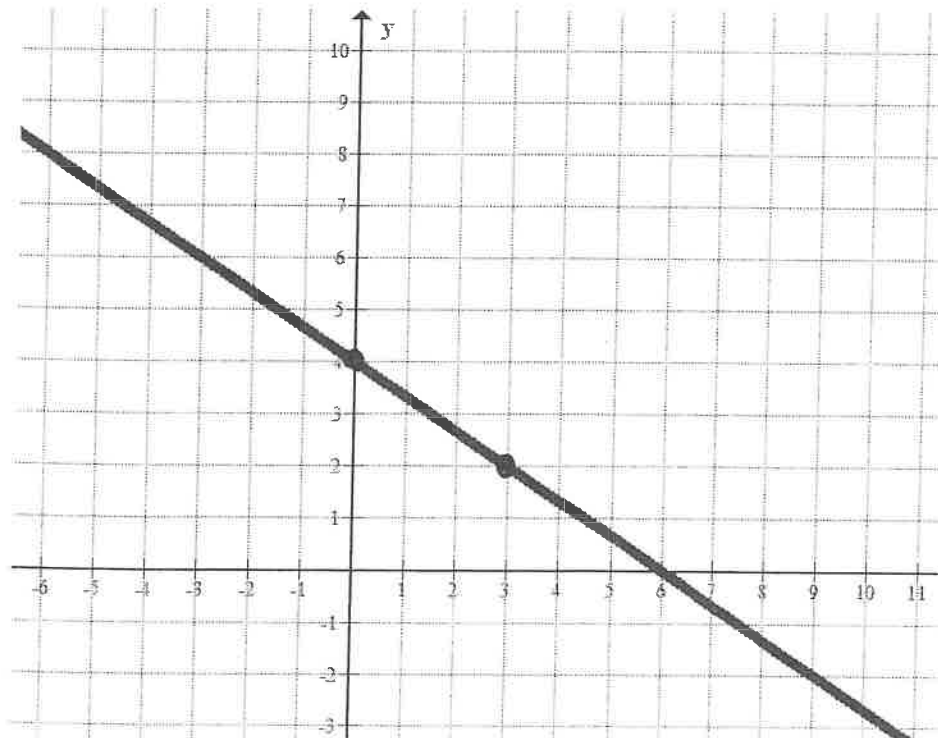
Given each graph, identify the slope and y-intercepts and write the equations for each graph.



Slope: _____

Y-intercept: _____

Slope Intercept Form:

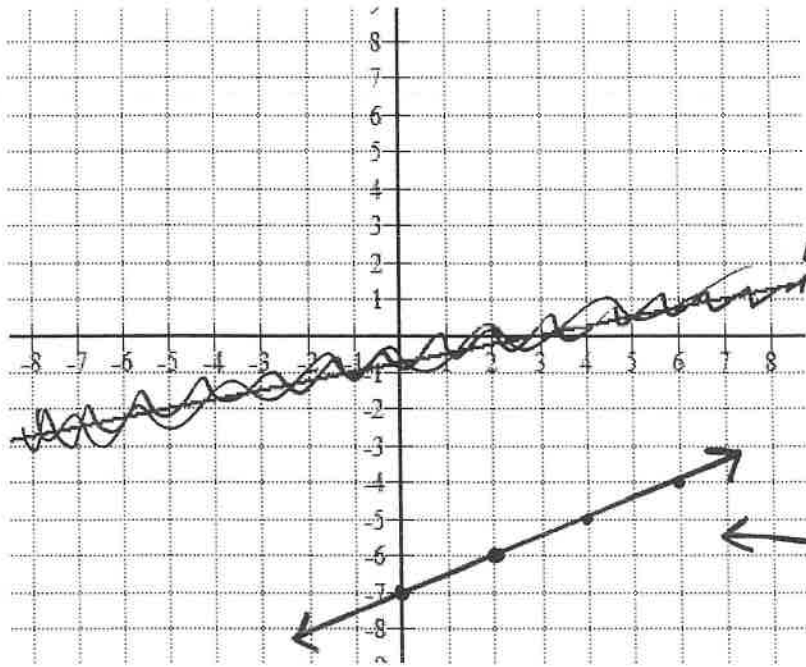


Slope: _____

Y-intercept: _____

Slope Intercept Form:

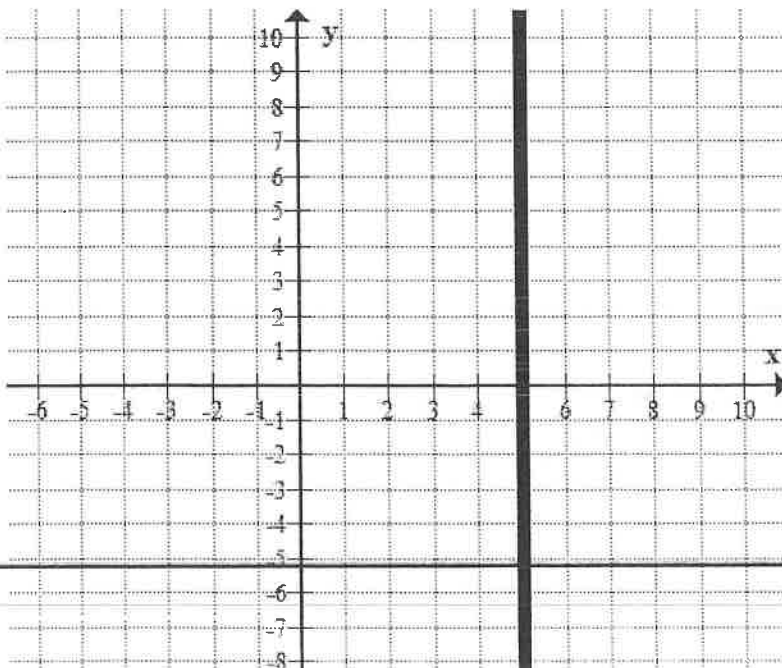
Homework: Writing Equations of Graphs
in Standard Form
Algebra I 2009 SOL



Slope: _____

Y-intercept: _____

Slope Intercept Form:



Slope: _____

Y-intercept: _____

Slope Intercept Form:

For each of the following situations, identify the rate of change (m) and the initial value (b). Then, write a linear equation in the form $y = mx + b$ to represent the situation. Also answer any questions that follow the situations.

1. Sarah has 15 dolls and gets 3 new dolls each month. How many dolls does she have after 7 months?

(m) ^{slope} rate of change: 3

b) ^{y-int} initial value: 15

equation: $y = 3x + 15$

$$\begin{aligned}y &= 3x + 15 \\y &= 3(7) + 15 \\y &= 21 + 15 \\y &= 36\end{aligned}$$

This is a choice
Challenge

2. Devon has \$750 in his bank account and spends \$25 each week. How much money does he have left after 8 weeks?

m (slope)
rate of change:

b (y-int)
initial value:

equation:

3. Julie is completely broke, but lands a job making \$325 a week. ~~If she saved all of her money, how much would she earn after working 9 weeks?~~

m (slope)
rate of change:

b - y int
initial value:

equation:

4. Tommy gets \$100 flat donation from his sponsors just for signing up for the Zombie Run. ~~He will get this amount if he walks no miles or 1,000 miles!~~ He then gets \$5 per mile.

m
rate of change:

b
initial value:

equation:

5. Danni has 5 kittens and gets 2 more each week! How many kittens does she have after 8 weeks?

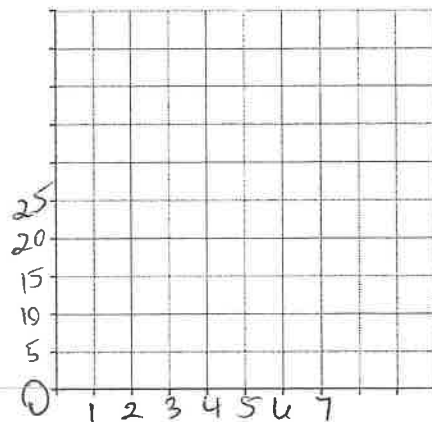
m
rate of change:

b
initial value:

equation:

choice ③
challenge

6. Johnny has 25 freeze ray guns and destroys 5 guns each week. Create a graph to show the relationship between the number of weeks and how many freeze ray guns he has left. Make sure to label the x and y axis correctly. Then, write an equation to represent the situation.



m

b

Equation

7. $y = -2x + 38$

What is the ^mrate of change in the equation above?

What is the ^binitial value or starting amount?

8.

x	y
0	10
1	15
2	20
3	25

write the equation of the table

m

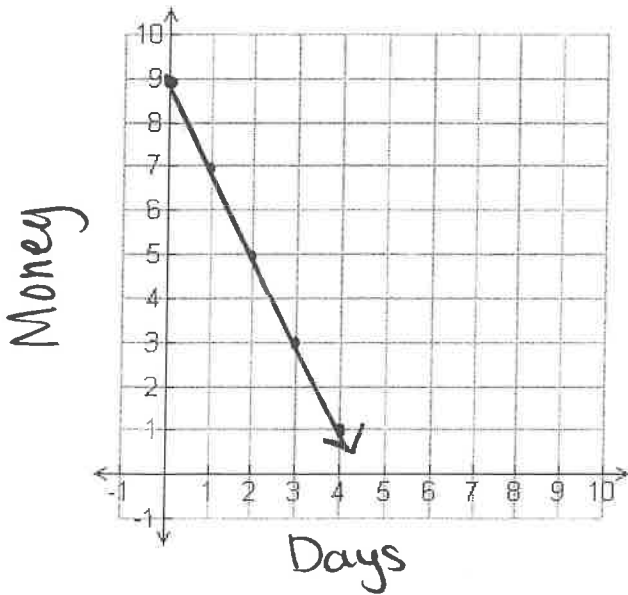
b

Equation

Does the table above show a linear relationship? If so, what is the rate of change?

~~Does it make a straight line~~

9.



What is the rate of change displayed in the graph?

11.

x	y
1	15
2	12
3	9
4	6

Does the table above represent a linear relationship? If yes, what is the rate of change?

Name _____

Date _____

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PLUMBER

Verbal Description

When a plumber is called, the cost of the service call is \$50 for him to show up at your house, plus an additional \$25 per hour.

Write and graph an equation to represent this relationship where y is the total cost of the service call and x is the number of hours the plumber is at your home.

Find and interpret the slope and y-intercept of the linear equation

$$m =$$

$$b =$$

Equation

Define your variables:

Words

$y =$

$x =$

Write your equation:

$$y = 25x + 50$$

Table of Values

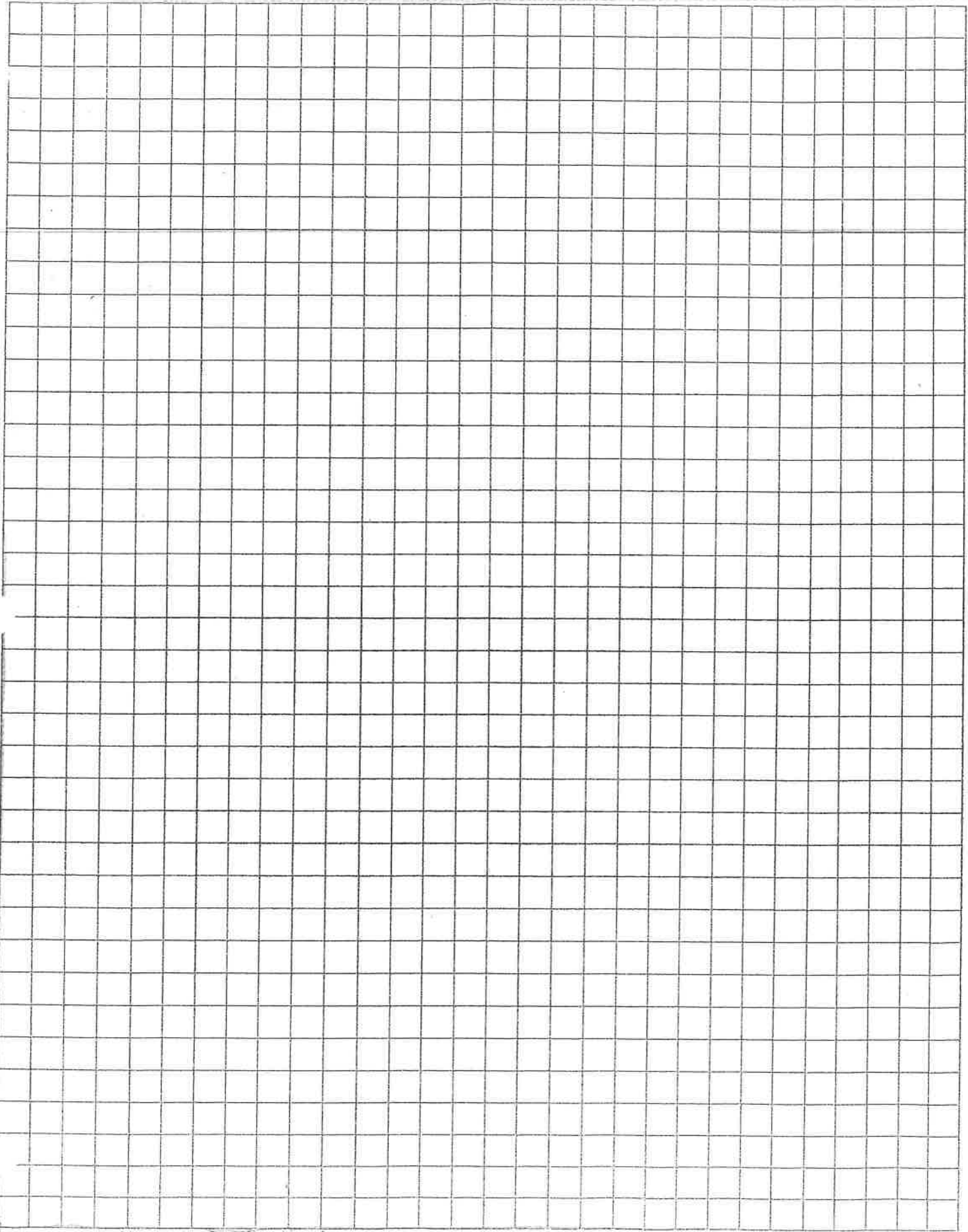
X	Y

Points to Graph:

(,)

(,)

Graph

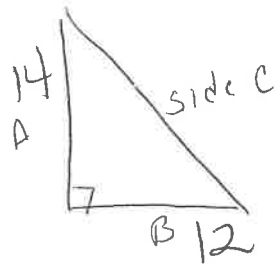


100
90
80
70
60
50
40
30
20
10
0

1 2 3 4 5 6 7 8 9 10 11 12

Pythagorean Theorem notes

missing side C



(Formula)

$$a^2 + b^2 = c^2$$

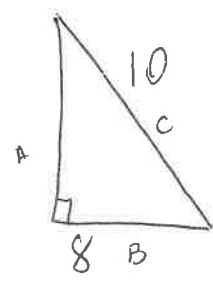
$$14^2 + 12^2 = c^2$$

$$\sqrt{340} = c$$

$$18.4 = c$$

last step
square
root

missing a leg



$$a^2 + b^2 = c^2$$

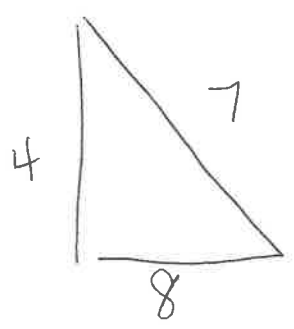
$$8^2 + b^2 = 10^2$$

$$\begin{array}{r} 64 + b^2 = 100 \\ -64 \quad -64 \\ \hline \end{array}$$

$$b^2 = \sqrt{36}$$

$$b = 6$$

Converse



Is this a
right triangle?

$$a^2 + b^2 = c^2$$

$$4^2 + 8^2 = 7^2$$

$$80 \neq 49$$

no
these #'s
are not
equal

Instructions

1st Page:
Do all word problems

2nd:

- Do # 1
- # 2
- # 3
- # 5
- # 6
- # 15
- # 11

Name: _____

$$a^2 + b^2 = c^2$$

Score: _____

need calc w/ key

Pythagorean Theorem

Level: 2

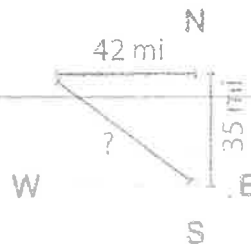
Solve the word problems. Round the answer to the nearest tenth.

- 1) Mark is on his way home from work. He drives 35 miles due North and then 42 miles due West. Find the shortest distance he can cover to reach home early.

$$35^2 + 42^2 = c^2$$

$$\sqrt{2989} = c$$

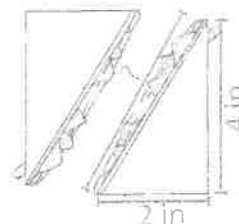
$$54.67 = c$$



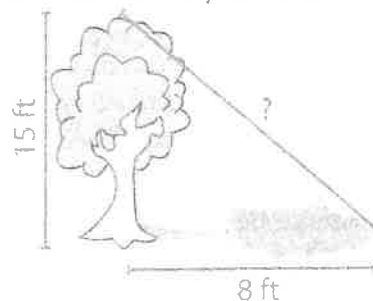
- 2) Mr. Richard owns an orchard that has a rectangular fence. The orchard is 36 yards long and 18 yards wide. If he walks across the diagonal length of the orchard, how much distance would he cover?



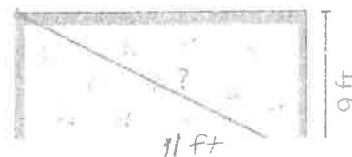
- 3) Joey made a sandwich that was 2 inches long and 4 inches high. If he cuts the sandwich in half as shown in the figure, what would be the diagonal length of the sandwich?



- 4) A 15 feet tree casts a shadow that is 8 feet long. What is the distance from the tip of the tree to the tip of its shadow?



- 5) Rachel bought a rug for her apartment. The rug is 11 feet long and 9 feet wide. Find the diagonal length of the rug.



Pythagorean Theorem Practice

Period _____

Directions: Find the missing side length. Show ALL steps! Color the problem number with its color in the picture.

1. What is the missing length? (Leg)

6 m
10 m
X

8 m - Orange
11.6 m - Purple

2. What is the missing length? (side c)

X
5 in
7 in

4.9 in - Green
8.6 in - Yellow

3. What is the missing length? (Leg)

X
50 cm
40 cm

60 cm - Black
30 cm - Pink

4. A ladder is leaning against a building. The bottom of the ladder is 4 ft. from the wall. The top of the ladder reaches the wall at 10 ft. How long is the ladder?

9.2 ft. - Green
10.8 ft. - Purple

5. Is this a right triangle? converse

13
5
12

Yes - Dark Green
No - Yellow

6. Is this a right triangle?

14
9
12

No - Dark Blue
Yes - Yellow

7. Find the distance between the points: (1, 2), (6, 4)

(1, 2)
(6, 4)

5.4 - Red
3 - Orange

8. Find the distance between the points.

A
B

9 - Orange
8.1 - Light Green

9. A sailboat left port and traveled 8 miles east and then 15 miles north. How far is the ship from the port at the end of the journey?

7 mi - Pink
17 mi - Light Blue

10. An inclined ramp rises 5 ft. over a horizontal distance of 10 ft. How long is the ramp?

5 ft. - Purple
11.2 ft. - Dark Green

11. What is the length of the diagonal?

X
6
3

6.7 - Light Blue
9 - Yellow

12. Which length is the hypotenuse?
12 in, 20 in, 16 in

16 in. - Light Blue
20 in. - Yellow

B. Jay-Z wants to draw a right triangle with leg lengths of 6 cm and 11 cm. What must the hypotenuse be in order for Jay-Z to draw a right triangle?

12.5 cm - Red
15.7 cm - Light Blue

14. What is the height of the triangle?

X
13
10

16.4 - Red
12 - Dark Blue

15. What is the missing length?

3
X
8

8.5 - Yellow
7.4 - Orange

Pythagorean Theorem Practice

The image contains several geometric figures with numerical labels:

- Top Left:** A rectangle with a vertical side of 15 and a horizontal side of 13. A circle with radius 7 is centered at the bottom-left corner.
- Top Middle:** A rectangle with a vertical side of 13 and a horizontal side of 15. A circle with radius 1 is centered at the top-left corner.
- Top Right:** A rectangle with a vertical side of 7 and a horizontal side of 13. A circle with radius 15 is centered at the top-right corner.
- Middle Left:** A tall rectangle with a vertical side of 15 and a horizontal side of 1. A circle with radius 12 is centered at the top-left corner.
- Middle Center:** A tilted rectangle with a vertical side of 8 and a horizontal side of 10. A circle with radius 15 is centered at the bottom-left corner.
- Middle Right:** A tall rectangle with a vertical side of 15 and a horizontal side of 7. A circle with radius 13 is centered at the top-right corner.
- Bottom Left:** A rectangle with a vertical side of 7 and a horizontal side of 1. A circle with radius 15 is centered at the bottom-left corner.
- Bottom Center:** A tilted rectangle with a vertical side of 7 and a horizontal side of 11. A circle with radius 6 is centered at the top-left corner.
- Bottom Right:** A rectangle with a vertical side of 13 and a horizontal side of 3. A circle with radius 3 is centered at the bottom-right corner.

Artwork by Sarah Perrino

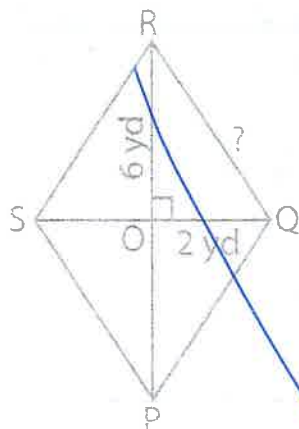
Your choice

Pythagorean Theorem - Shapes

Use the Pythagorean theorem. Find the length of the unknown side in each figure. Round the answer to the nearest tenth.

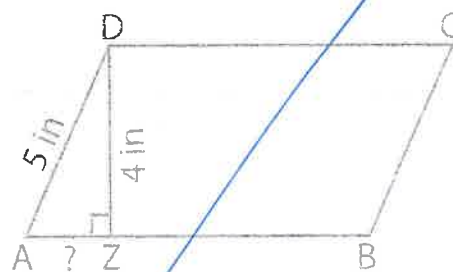
(1 more challenge)

1)



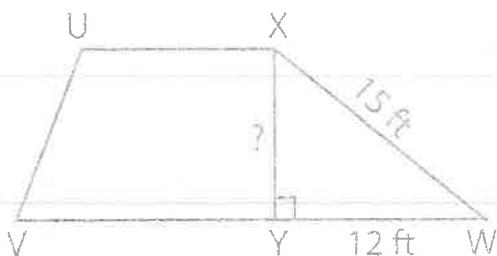
QR = _____

2)



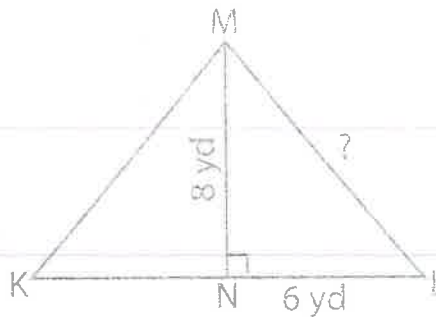
AZ = _____

3)



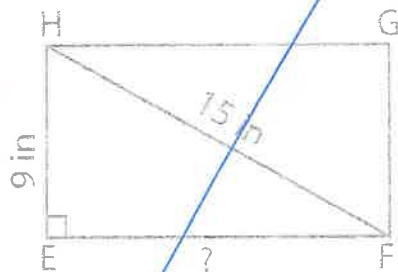
XY = _____

4)



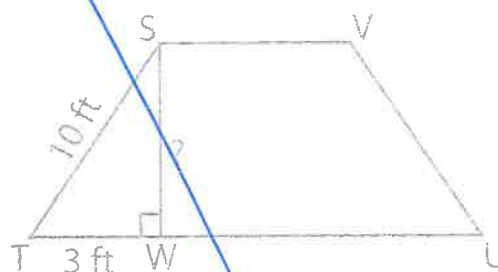
LM = _____

5)



EF = _____

6)



SW = _____

TRANSFORMATIONS

Translations

on back are helpful
DO EVENS!

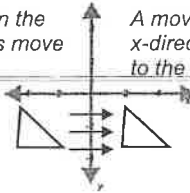
→ faded hints
* Ex. (back)

Translating a shape on the coordinate is the same thing as sliding the shape. When translating a shape you must NOT turn or flip the shape, ONLY slide it!

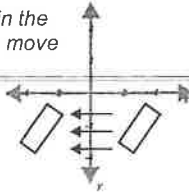
Movement in the x-direction (left or right).

Movement in the y-direction (up or down).

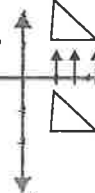
A move positive in the x-direction means move to the right.



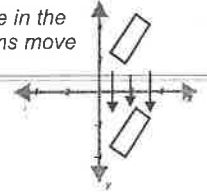
A move negative in the x-direction means move to the left.



A move positive in the y-direction means move up.

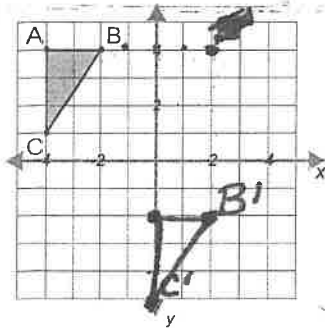


A move negative in the y-direction means move down.

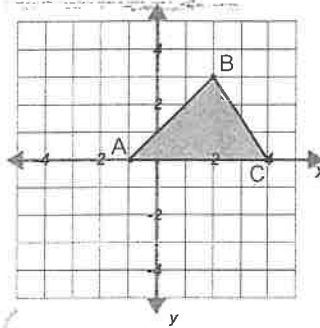


Directions: Translate each object according to the given instructions. Draw the translated object.

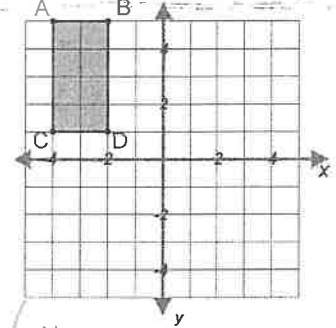
- 1) 4 units to the right
6 units down



- 2) 3 units to the left
2 units down

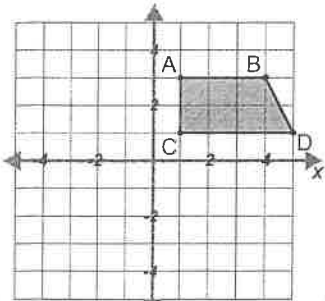


- 3) 6 units to the right
1 unit down

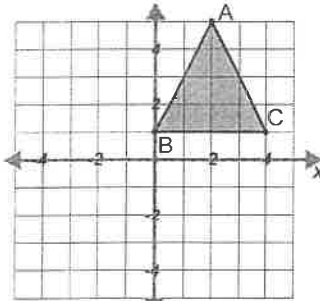


Rule (x, y)

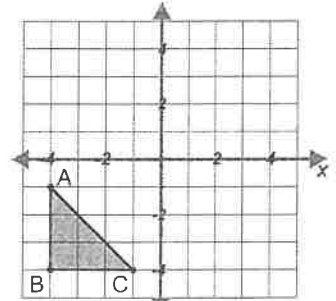
- 4) 5 units to the left
5 units down



- 5) 4 units to the left
0 units up or down

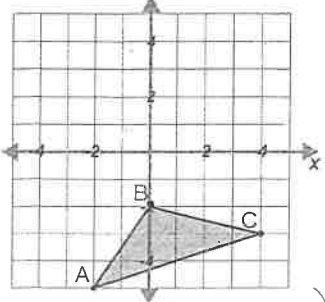


- 6) 6 units to the right
5 units up

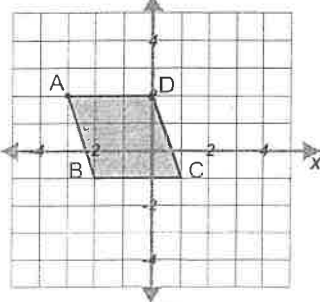


Rule (x, y)

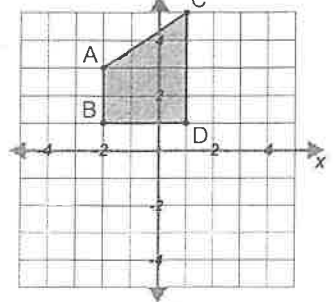
- 7) 2 units to the left
7 units up



- 8) 0 units up or down
4 units down



- 9) 3 units to the right
6 units down



	+	-
X	right	left
Y	up	down

How to write the rule
in algebraic form.

Ex. Left 4, down 2
 $(x - 4, y - 2)$

Ex. Right 4
 $(x + 4, y + 0)$
 $(x + 4, y)$

Ex. Right 2, 7 units up
 $(x + 2, y + 7)$