

Review

Jeopardy!

Round 2

Final
Jeopardy

Scores

Feel the
Power

Don't be
Irrational

LINE It Up

FUNctions

Solve It!

Angles and
Tri-angles

I Can
Transform
Ya

\$100

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\$100 Feel the Power

How many mistakes are there? Describe it/them.

Ling is finding the volume of a cube with an edge length of $5ab^3$. Her work is shown. 8.EE.1

Part A:

Step 1 $V = (5ab^3)^3$

Step 2 $V = 5^3(a)^3(b^3)^3$

Step 3 $V = 15a^3b^6$

\$200

Feel the Power

NO CALC

In the final game of a baseball tournament, about 5×10^4 fans attended the game and about 1×10^7 fans watched the game on television.

A. How many times more fans watched on TV than in person?

B. How many more fans watched on TV than in person?

\$300

Feel the Power

NO CALC

Match each expression on the left with an expression on the right. The expressions on the right can be used more than once.

1)

$$\frac{3^{-7}}{3^{-9}}$$

A

$$\frac{1}{9}$$

2)

$$\frac{9}{9^0}$$

B

$$\frac{1}{3}$$

3)

$$(9^3)(9^{-4})$$

C

$$3$$

4)

$$\frac{3^3}{3^4}$$

D

$$9$$

\$400

Feel the Power

NO CALC

Which expressions are equivalent to $\frac{3^2}{3^{-5}}$?

A. $\frac{3 \cdot 3}{3 \cdot 3 \cdot 3 \cdot 3 \cdot 3}$

E. 3^7

B. 3^{2-5}

F. $\frac{1}{3^3}$

C. 3^{2+5}

G. $3^2 \cdot 3^5$

D. $\frac{3^4}{3^{-3}}$

\$500 Feel the Power

Choose all of the expressions that are equivalent to $16x^8$.

A. $2x^5 \cdot 8x^3$

B. $\frac{20x^{10}}{4x^2}$

C. $\frac{32x^9}{2x}$

D. $(4x^4)^2$

E. $(8x^4)^2$

F. $4x^4 \cdot 4x^2$

G. $\frac{16x^3}{x^{11}}$

H. $(16x^8)^1$

I. $(16x^8)^0$

\$100

Don't be Irrational

NO CALC

Select **all** equations that are correct.

☐ A $\sqrt[3]{8} = 2$

☐ B $\sqrt{125} = 5$

☐ C $\sqrt[3]{99} = 33$

☐ D $\sqrt{169} = 13$

☐ E $\sqrt[3]{27} = 3$

\$200

Don't be Irrational

Choose ALL equations/tables that are linear.

A. $y = \frac{1}{2}x^2 + 8$

B. $y = 4(2 + x) + 2x$

C. $y = x(2x + 1)$

D.

x	y
0	3
2	6
4	12
6	24
8	48

E.

x	y
1	7
2	10
3	13
4	16
6	22

\$300

Don't be Irrational

How many solutions do each of these equations have?

A. $x^2 = 100$

B. $x^3 = 27$

C. $x^3 = -27$

D. $x^2 = 26$

E. $x^2 = -16$

F. $x^3 = -\frac{8}{27}$

**Which of these are irrational?
Select ALL that apply.**

A. 4.2587

E. 1.232323...

B. $\sqrt{81}$

F. $\sqrt{50}$

C. $\frac{18}{79}$

G. $\sqrt[3]{8}$

D. $\sqrt[3]{12}$

H. $\frac{\pi}{\pi}$

\$500 Don't be Irrational

Classify each as:

A. Defined and Rational

B. Defined and Irrational

C. Undefined

1) $\sqrt{-49}$

4) $\sqrt[3]{18}$

2) $\sqrt{7}$

5) $\sqrt[3]{-8}$

3) $\sqrt[4]{-16}$

\$100 LINE It Up

**Solve the system of equations by
graphing:**

$$\begin{cases} y = -x - 6 \\ y = 3x + 2 \end{cases}$$

John and Paul each had a big math assignment to do. The number of problems John had left is represented by the equation $y = -4x + 50$, where x represents the number of minutes he has been working. The number of problems Paul has left is given in the table. Who was working faster?

# of minutes	0	2	5	7	11
# problems left	60	54	45	39	27

\$300

LINE It Up

For \$1200, a business can post an advertisement for 30 days. For \$1500, the advertisement will be posted for 60 days. The relationship comparing cost to days is linear. Which function can be used to model the relationship between cost, y , and the number of days, x , that an advertisement will be posted?

A. $y = 300x + 1200$

B. $y = 1200x + 300$

C. $y = 10x + 900$

D. $y = 900x + 10$

The points $(3, 10)$, $(5, 14)$, and $(8, 20)$ satisfy a linear function. Which point satisfies the SAME linear function?

A. $(1, 2)$

B. $(10, 22)$

C. $(12, 28)$

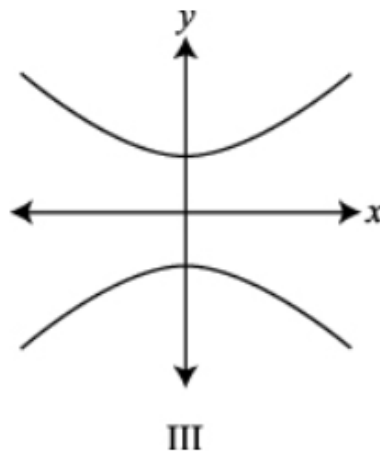
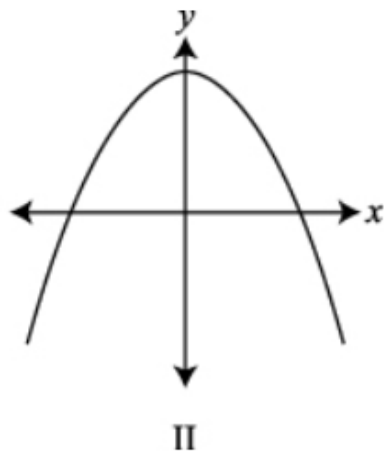
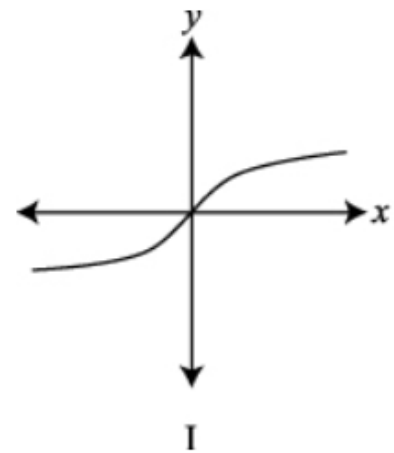
D. $(16, 40)$

\$500 LINE It Up

To ship packages, Company A and Company B both charge a certain price per ounce, plus a “flat fee”. At Company A, a 5-oz package costs \$3.25 and a 6-oz package costs \$3.40. At Company B, a 3-oz package costs \$3.90 and a 5-oz package costs \$4.10. Which company has a higher flat fee, and by how much?

\$100 FUNCTIONS

Which of these three graphs show(s) the plot of a function with input x and output y ?



- Ⓐ I only
- Ⓑ II only
- Ⓒ I and II only
- Ⓓ I, II, and III

\$200 FUNCTIONS

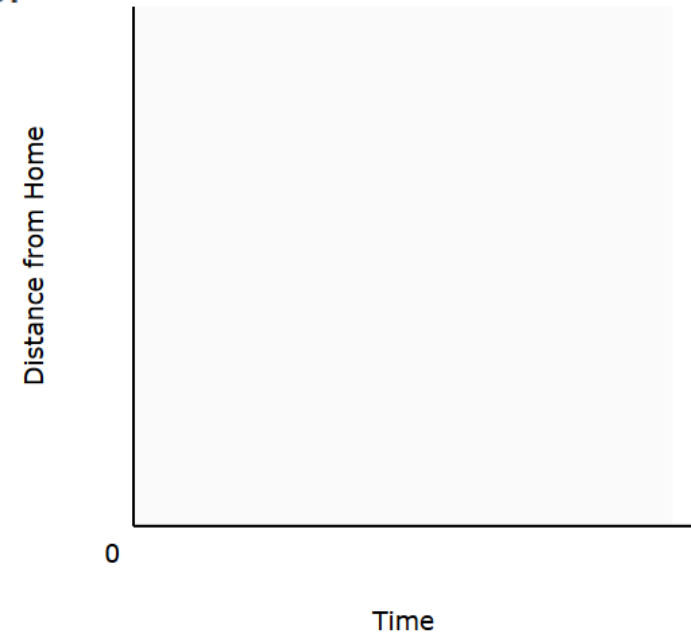
Air temperature affects the speed of sound. The relationship between the temperature of air, T (in degrees celsius) and the speed of sound, S , is given by the function $S = 331.5 + 0.61T$. At what air temperature is the speed of sound 343.7 meters per second?

\$300 FUNctions

David is getting ready to go to school.

- He rides his bike from his house to the school at a constant rate.
- When he gets to school, he chains his bike to a bike rack and goes to class.
- After class, David realizes he forgot his lunch at home and rides his bike back towards his house at a constant rate.
- Before arriving home, he decides to use the \$5 he has to buy lunch at school. He stops, turns around immediately and rides his bike back to school at a constant rate.
- When he gets to the school, he chains his bike to the bike rack.

Graph the motion of David's bike over time in this scenario.



\$400 FUNctions

Mike and Tim each opened bank accounts on the same day.

- Mike opened a bank account with \$80.
- Mike deposits \$20 each week.
- Tim opened a bank account with \$500.
- Tim withdraws \$50 each week.

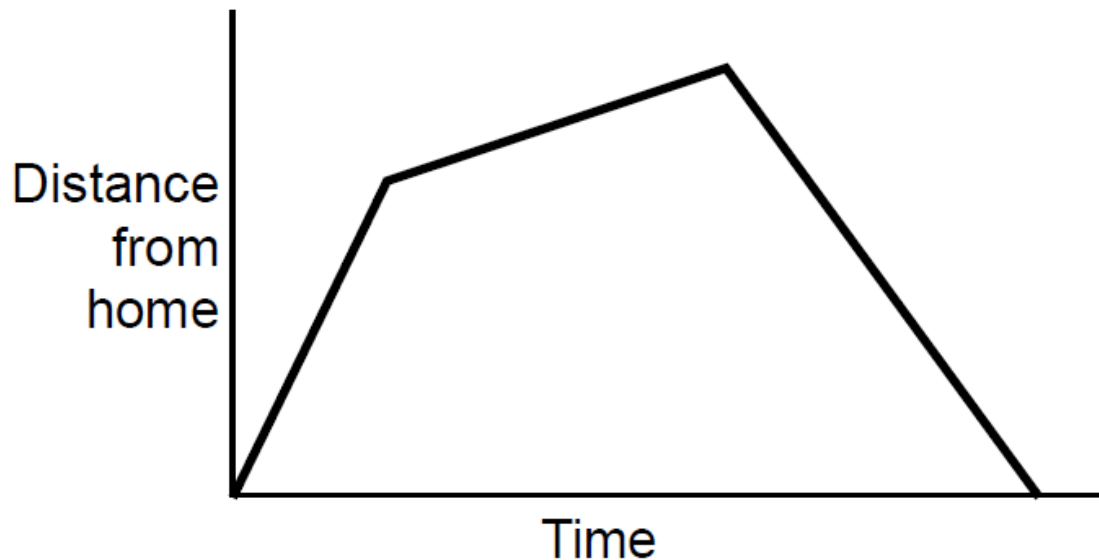
After how many weeks will Mike and Tim have the same amount of money in their accounts? How much money will they each have?

Which story matches the graph?

A. Tom took his dog for a walk to the park. He set off slowly and then increased his pace. At the park Tom turned around and walked slowly back home.

B. Tom rode his bike east from his home up a steep hill. After a while the slope eased off. At the top he raced down the other side.

C. Tom went for a jog. At the end of his road he bumped into a friend and his pace slowed. When Tom left his friend he walked quickly back home.



Mr. Zane wrote two equations on the board:

$$K \quad 3(x - 12) - 3x = 12$$

$$L \quad 3(x - 4) + 24 - 3x = 12$$

Which statement is true about the two equations?

- Ⓐ Equation K has one solution and equation L has no solution.
- Ⓑ Equation L has one solution and equation K has no solution.
- Ⓒ Equation K has no solution and equation L has infinite solutions.
- Ⓓ Equation L has no solution and equation K has infinite solutions.

\$200 Solve It!

Put a number in each blank so that the equation would have no solution.

$$-2(-3x + 4) - 4x = \underline{\hspace{1cm}}x - \underline{\hspace{1cm}}$$

\$300 Solve It!

Solve the equation:

$$4x - 9 - 7x - 18 = -3(-x + 1)$$

\$400 Solve It!

Solve the system:

$$\begin{cases} y = 5x - 9 \\ 4x - 2y = 0 \end{cases}$$

\$500 Solve It!

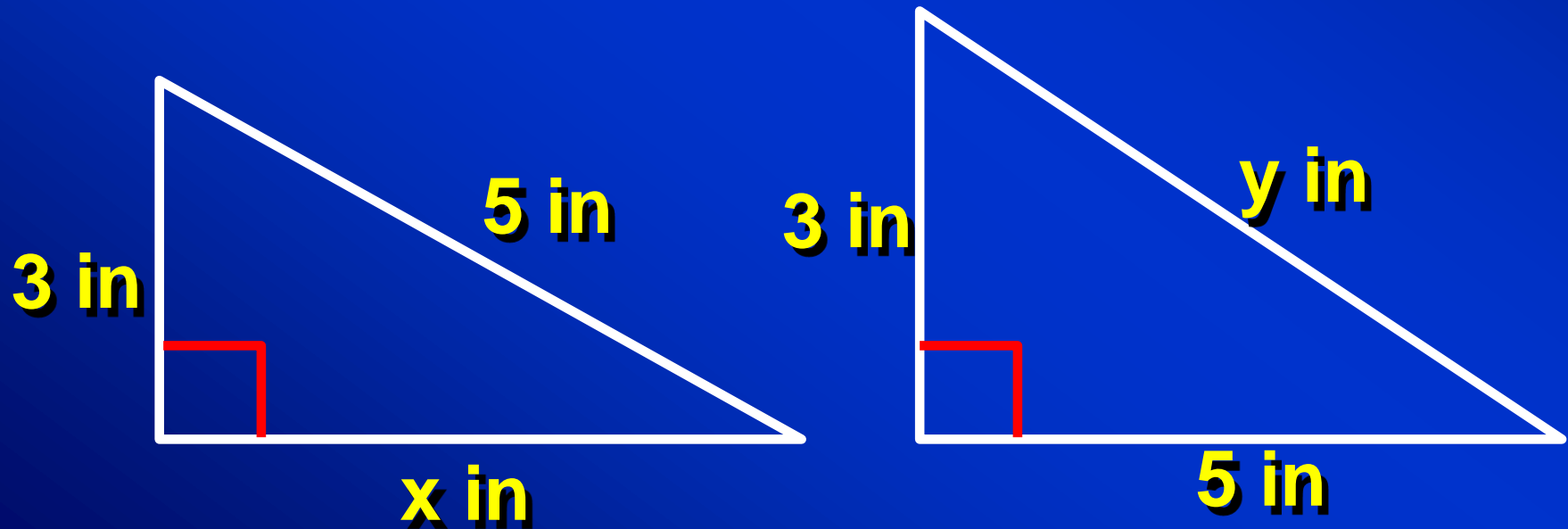
Solve the system:

$$\begin{cases} x - 3y = 25 \\ 3x + 2y = 20 \end{cases}$$

\$100

Angles and Tri-angles

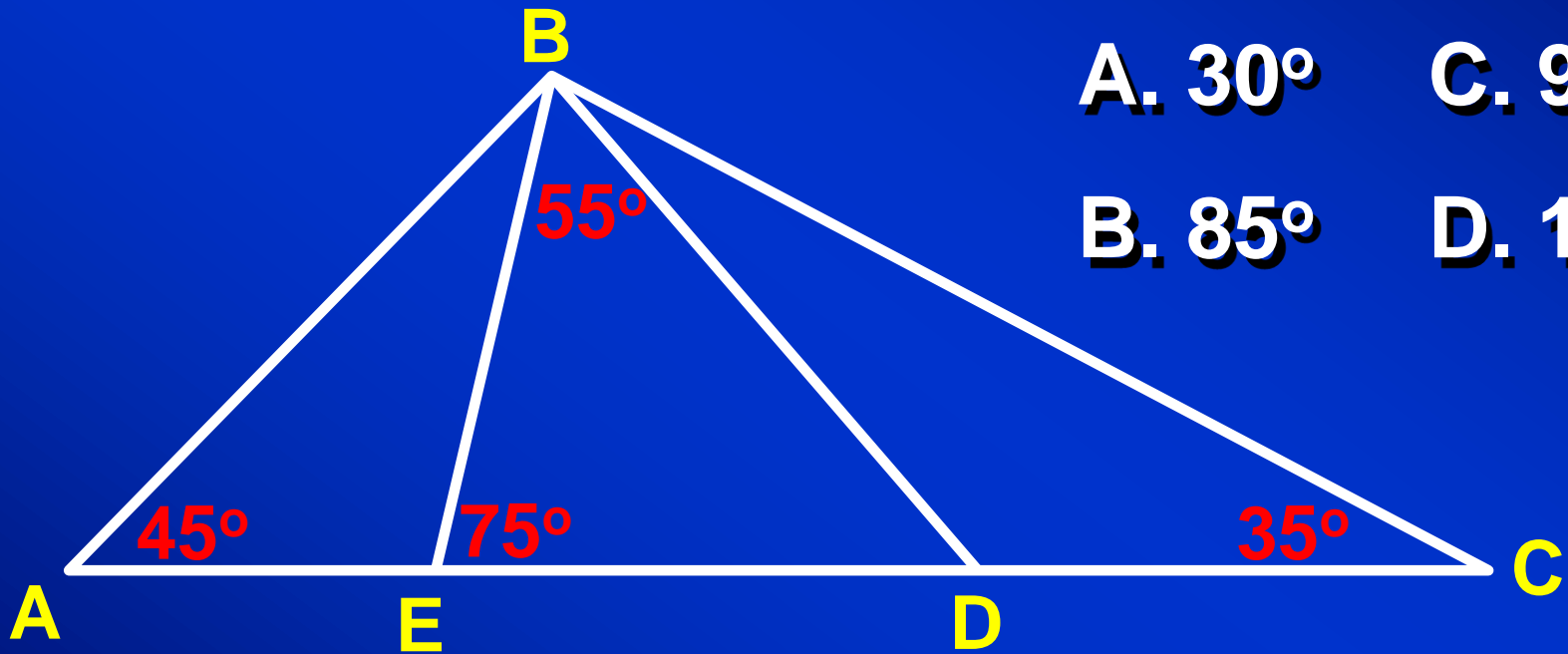
**How much longer is y than x ?
Round to the nearest hundredth
of an inch.**



\$200

Angles and Tri-angles

Find the measure of $\angle ABD$.



A. 30°

C. 90°

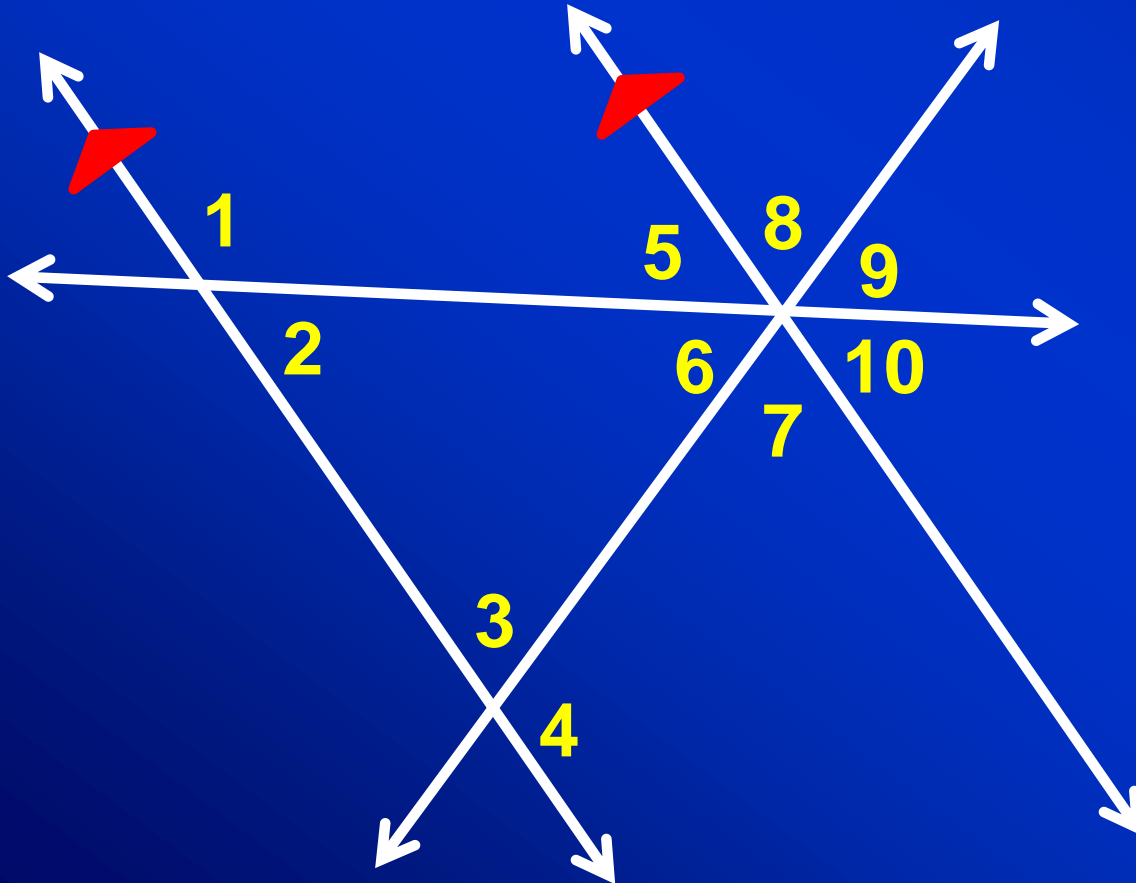
B. 85°

D. 100°

\$300

Angles and Tri-angles

Which of these pairs of angles MUST be congruent?



A. 2 and 3

B. 3 and 5

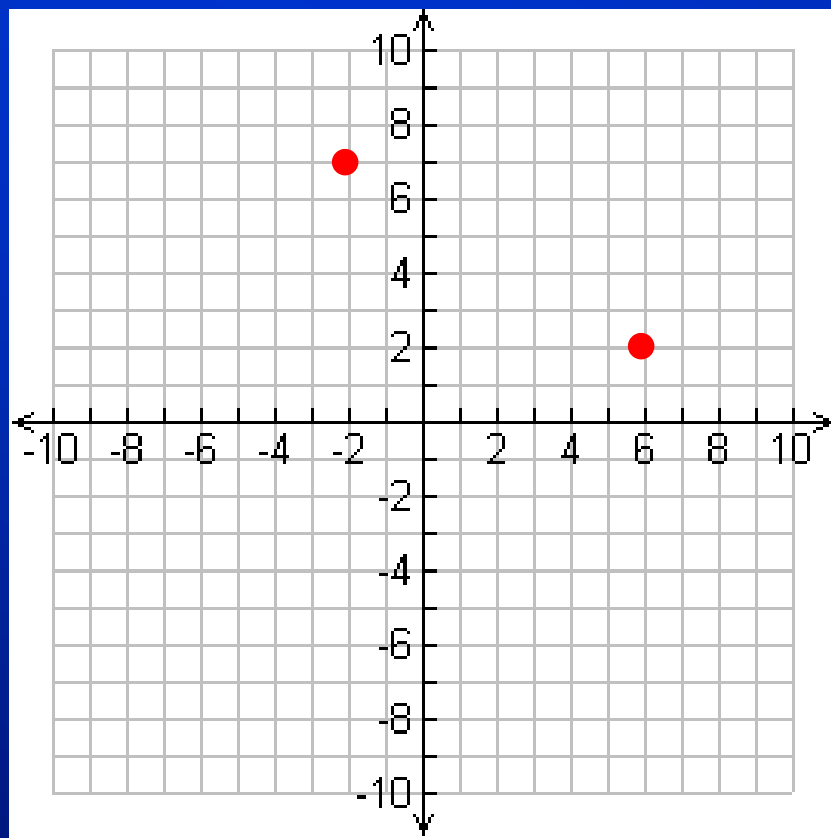
C. 1 and 4

D. 3 and 8

\$400

Angles and Tri-angles

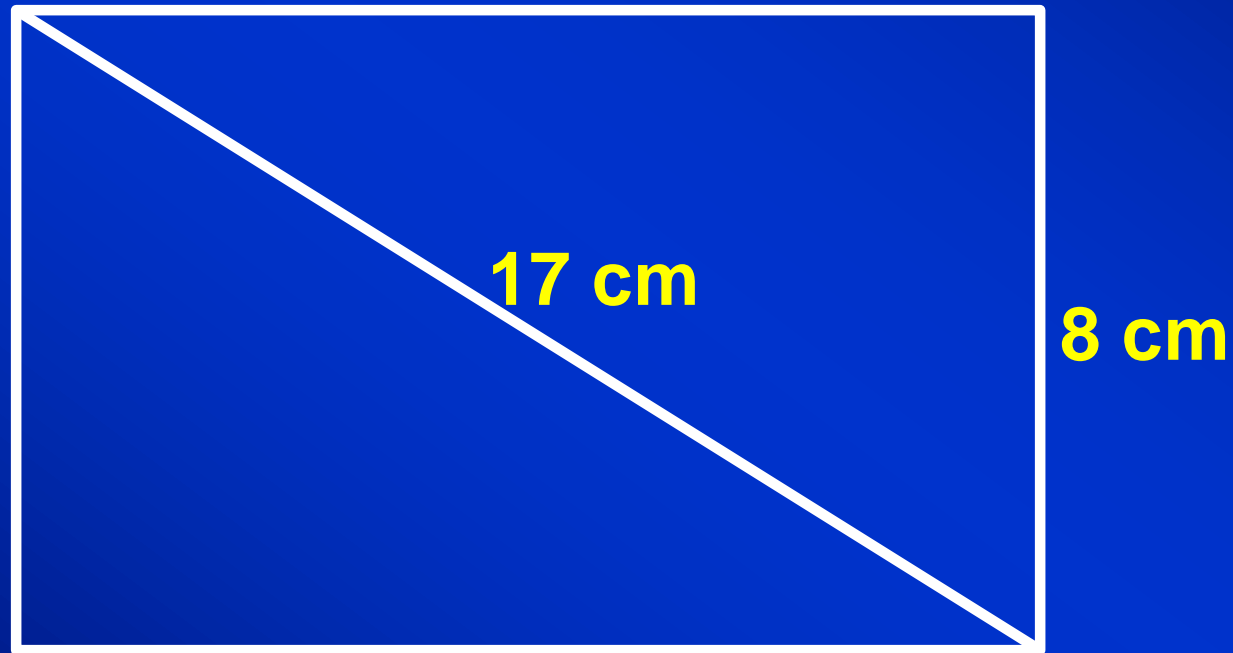
Find the distance between the points $(-2, 7)$ and $(6, 2)$. Round to the nearest tenth of a unit.



\$500

Angles and Tri-angles

Find the area and perimeter of the rectangle. Round answers to the nearest tenth.



\$100

I Can Transform Ya

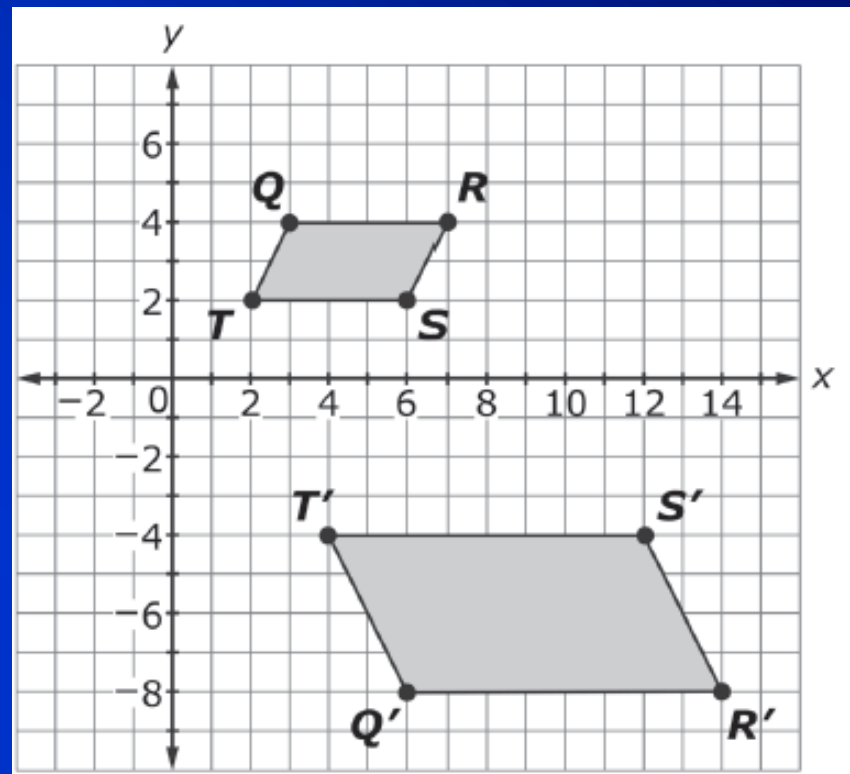
Line segment AB, whose original length is 10 units, is translated up four units, rotated 90° clockwise, and then dilated by a scale factor of two. Which of the following is true?

- A. The length of the image is 5 units**
- B. The length of the image is 10 units**
- C. The length of the image is 20 units**
- D. The length of the image is 28 units**

\$200

I Can Transform Ya

What sequence of transformations maps QRST onto Q'R'S'T'?

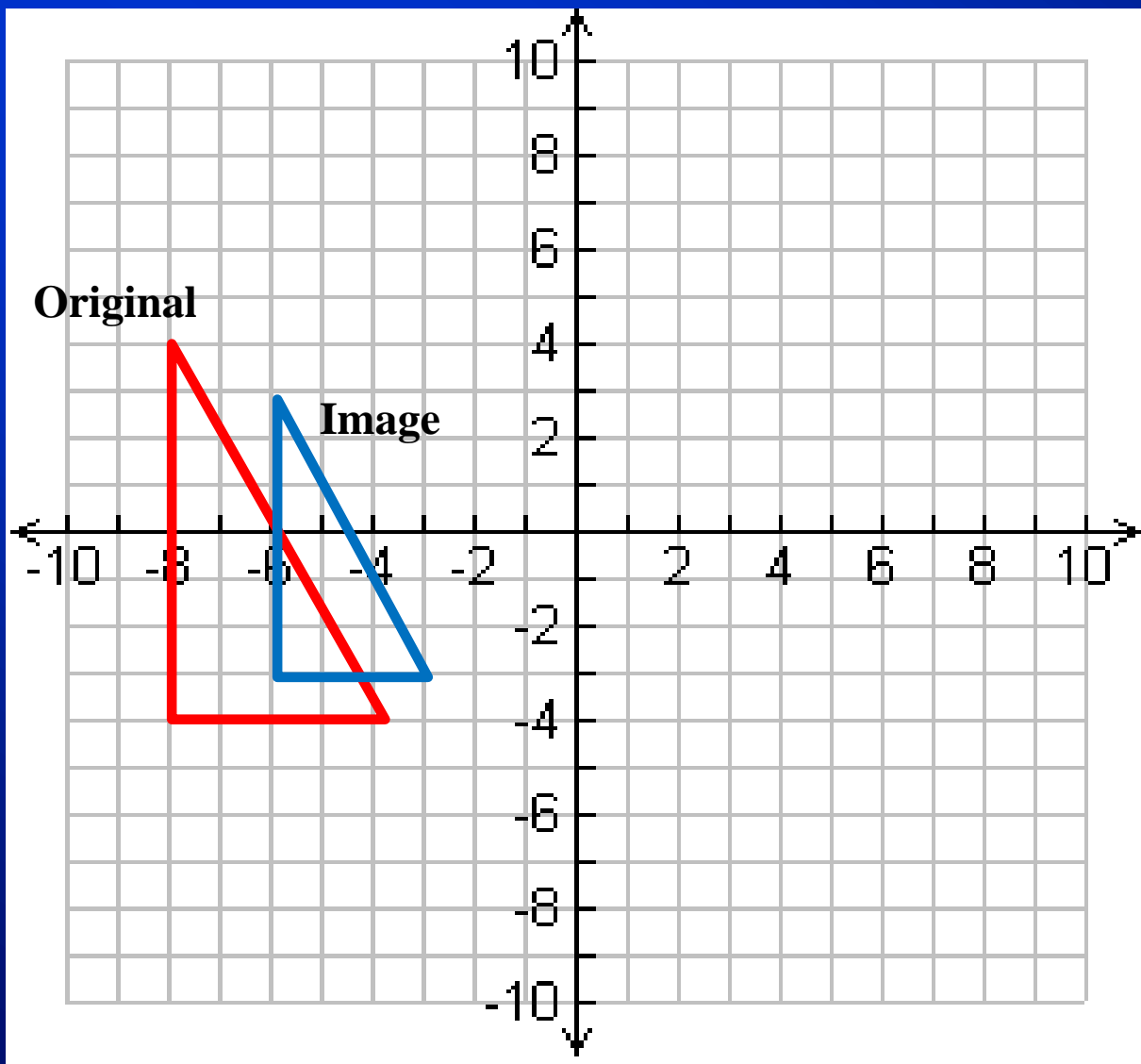


- A. Reflection over x-axis, then dilation by a scale factor of 2
- B. 90° clockwise rotation, then dilation by a scale factor of 2
- C. Dilation by a scale factor of 2, then translation 2 units right and 2 units down
- D. 270° counterclockwise rotation, then a dilation by a scale factor of 2

\$300

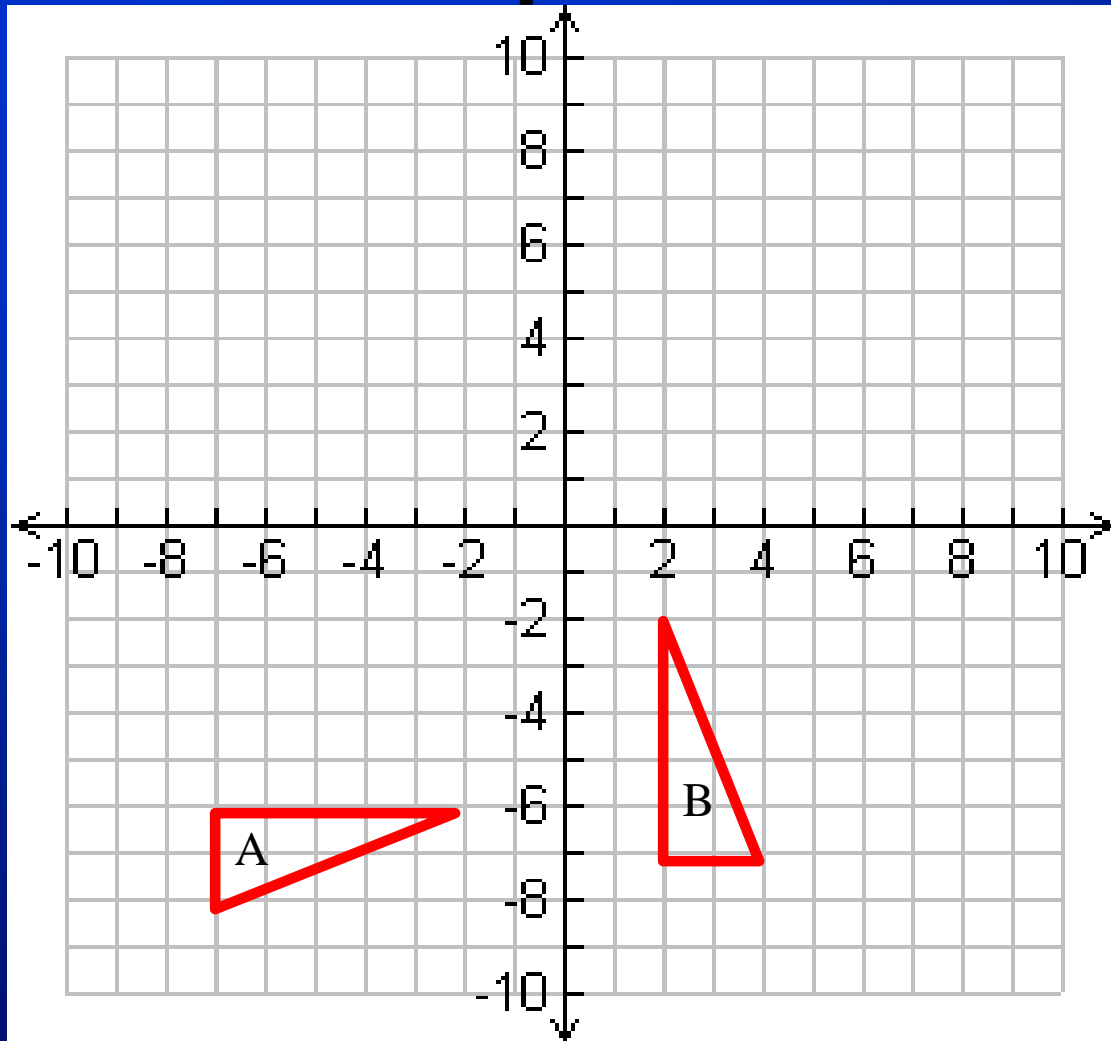
I Can Transform Ya

What is the scale factor of the dilation?



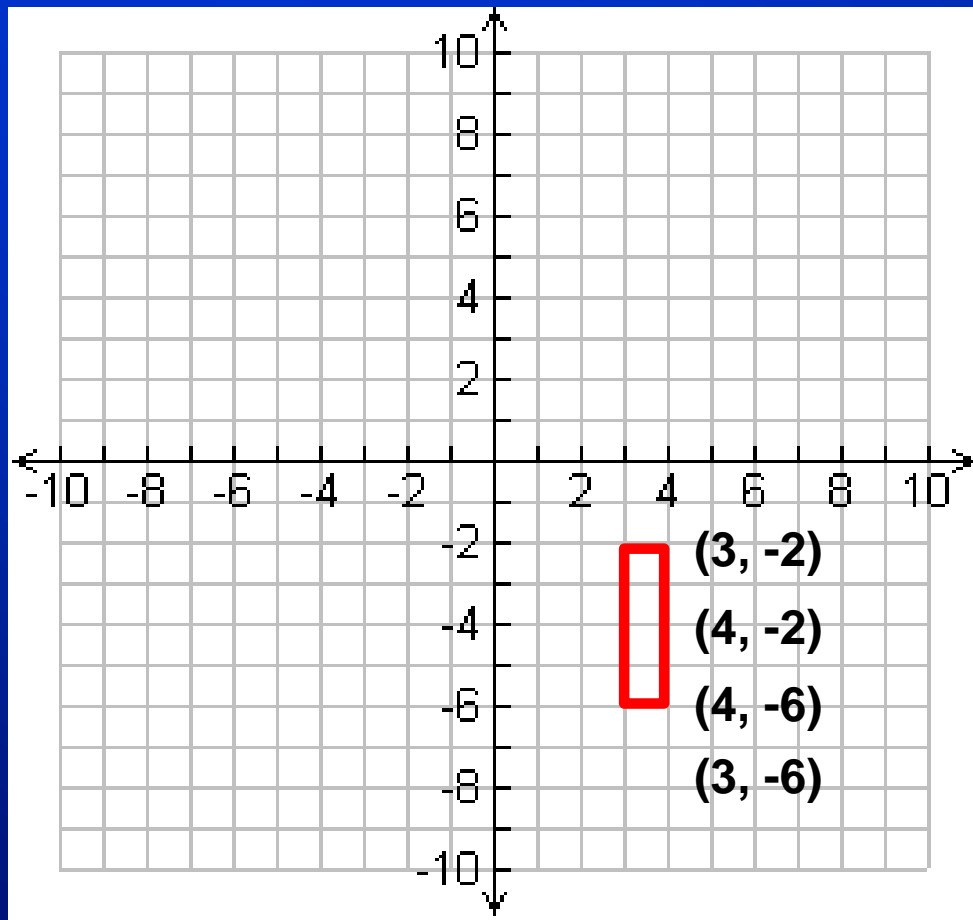
\$400 I Can Transform Ya

Name a sequence of transformations that could map “A” onto “B”.



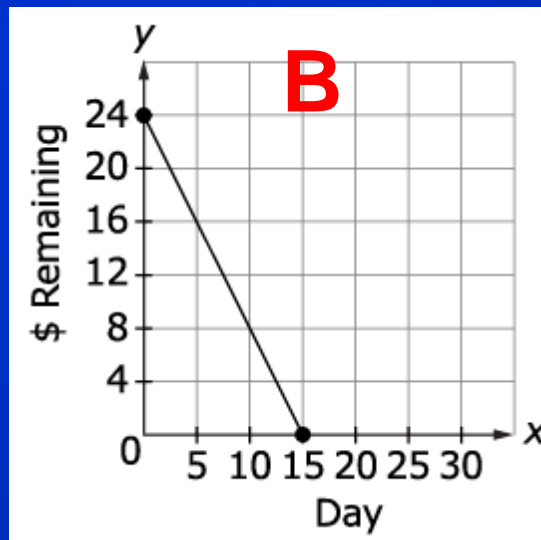
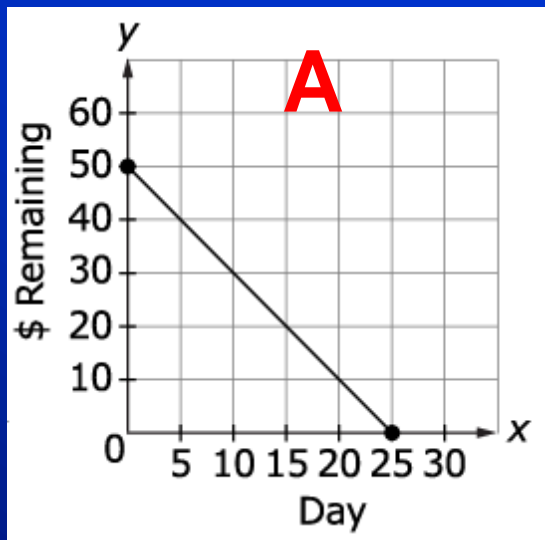
\$500 I Can Transform Ya

**Rotate 90° counterclockwise,
then reflect across the line $y = 6$.**



FINAL JEOPARDY

Rank from lowest rate of spending to highest rate of spending.



$$y = -3x + 30$$

C

x is # of days,
 y is \$ remaining

D

Day	0	5	10	15	20
\$ Remaining	48	36	24	12	0

E

Day	0	2	4	6	8
\$ Remaining	100	90	80	70	60