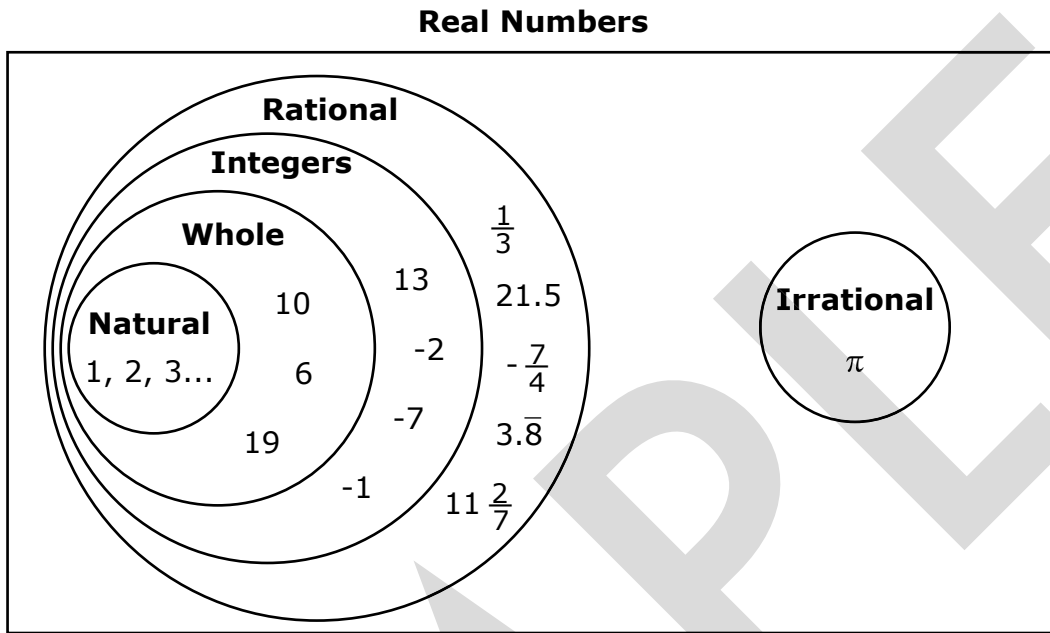




8.2A (M)

1. A student used the diagram below to classify numbers.

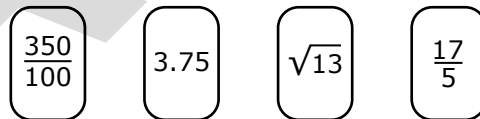


In which subset of the diagram should the student classify the number $\sqrt{3}$?

- A Integers
- B Irrational
- C Natural
- D Whole

8.2D (M)

2. Janelle randomly selected the math tiles shown below.



Janelle arranged the tiles in order from least to greatest. Which list shows the numbers in that order?

- A $\frac{350}{100}$ $\sqrt{13}$ $\frac{17}{5}$ 3.75
- B $\sqrt{13}$ 3.75 $\frac{350}{100}$ $\frac{17}{5}$
- C $\frac{17}{5}$ $\frac{350}{100}$ $\sqrt{13}$ 3.75
- D 3.75 $\frac{17}{5}$ $\frac{350}{100}$ $\sqrt{13}$

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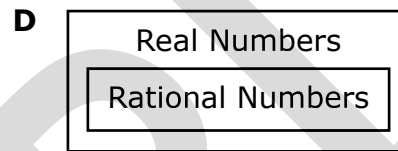
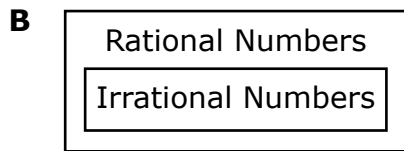
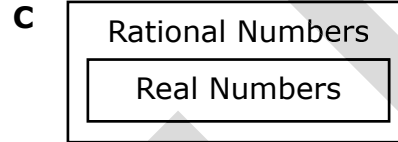
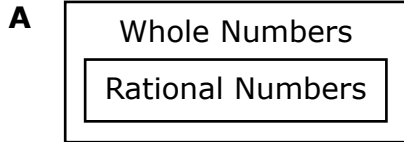


8.2A (M)

1. The numbers below are both rational numbers.

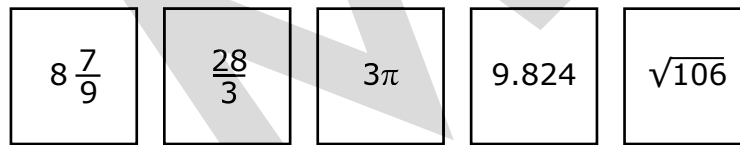
$$\frac{1}{8} \quad 10.8$$

Which diagram shows how these numbers are classified in the real number system?

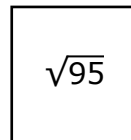


8.2D (M)

2. Jack placed five randomly selected math tiles in order from least to greatest, as shown below.



He selected a sixth math tile, shown below.



Between which two tiles should Jack place $\sqrt{95}$ to keep the tiles in order from least to greatest?

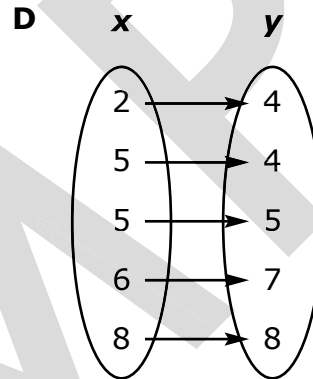
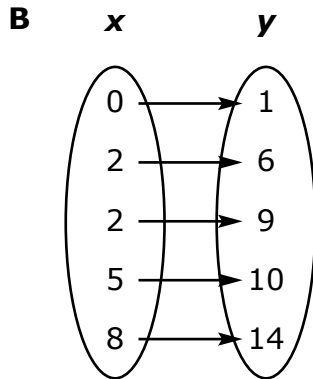
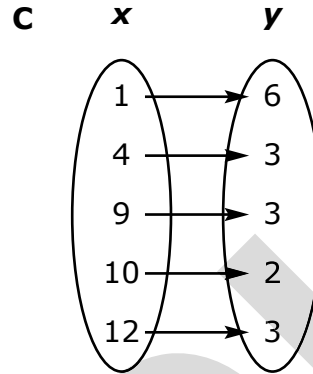
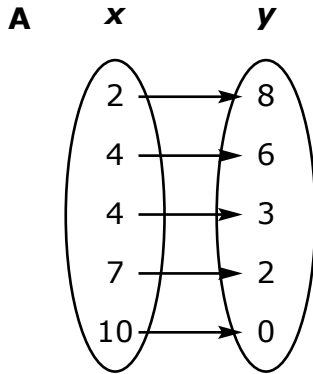
- A** $8\frac{7}{9}$ and $\frac{28}{3}$
- B** $\frac{28}{3}$ and 3π
- C** 3π and 9.824
- D** 9.824 and $\sqrt{106}$

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8.5G (M)

3. Four mappings of ordered pairs appear below. Which mapping represents a functional relationship?



8.5H (M)

4. In her math class, Mrs. Jacobson created the table of linear equations shown below.

Linear Equations

$y = x + 3$
$x = y - 5$
$y = 4x - 4$
$x = 2y$

Each linear equation in the table represents a non-proportional function **EXCEPT—**

A $y = x + 3$

C $y = 4x - 4$

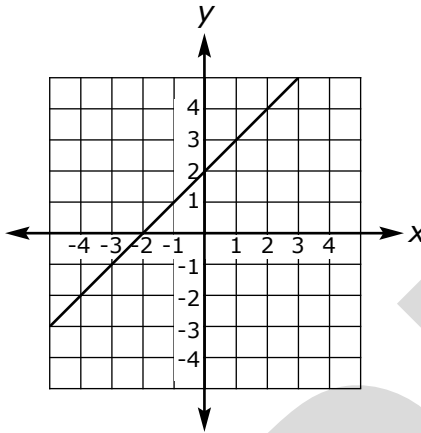
B $x = y - 5$

D $x = 2y$

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8.4C (M)

1. What is the slope of the linear function shown on the graph below?



A -2

B -1

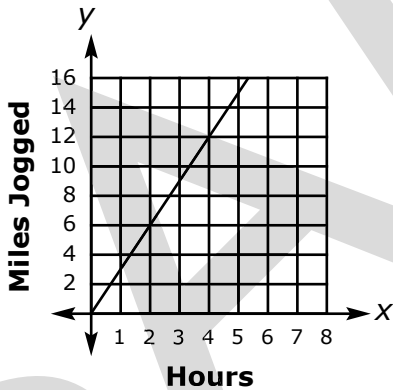
C 1

D 2

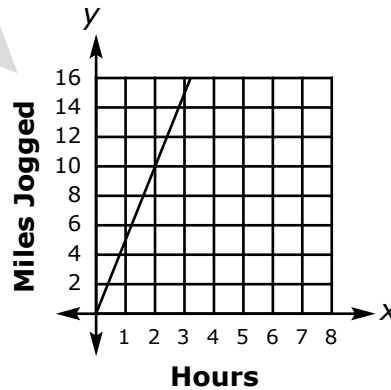
8.5A (M)

2. Laurence can jog 12 miles in 2 hours. Assuming he jogs at a constant rate, which graph below best represents the linear relationship between x , the number of hours Laurence jogs, and y , the total number of miles he can travel?

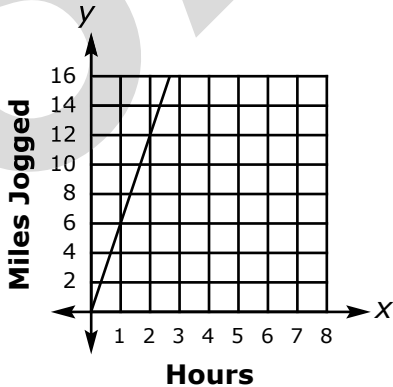
A



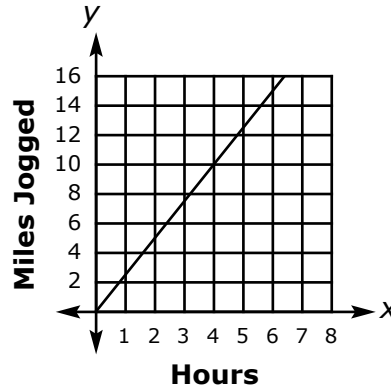
C



B



D

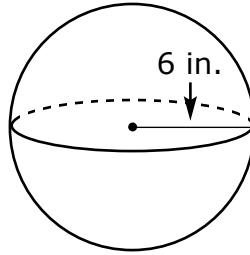


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8.7A (M)

3. John made a toy shaped like the sphere shown in the diagram below.

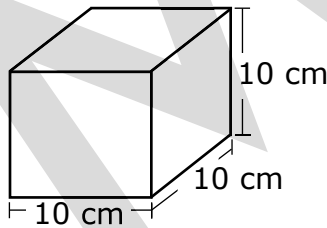


Using 3.14 for π , what is the volume of the toy?

- A 150.72 in.³
- B 226.08 in.³
- C 452.16 in.³
- D 904.32 in.³

8.7B (M)

4. Clint wants to wrap a small gift box like the one shown below.



How many square centimeters of paper will Clint use to wrap the entire box?

Record your answer in the boxes. Then fill in the bubbles. Be sure to use the correct place value.

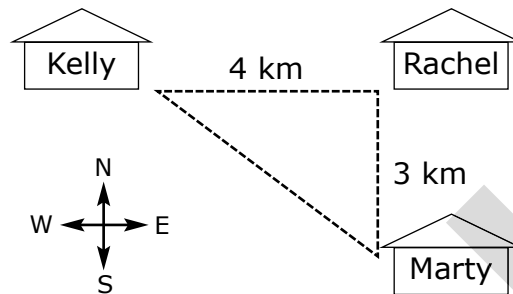
					.		
+	0	0	0	0		0	0
-	1	1	1	1		1	1
	2	2	2	2		2	2
	3	3	3	3		3	3
	4	4	4	4		4	4
	5	5	5	5		5	5
	6	6	6	6		6	6
	7	7	7	7		7	7
	8	8	8	8		8	8
	9	9	9	9		9	9

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8.7C (M)

- Kelly bicycled 4 kilometers due east from her house to Rachel's house. Then Kelly bicycled 3 kilometers due south from Rachel's house to Marty's house, as shown in the diagram below.

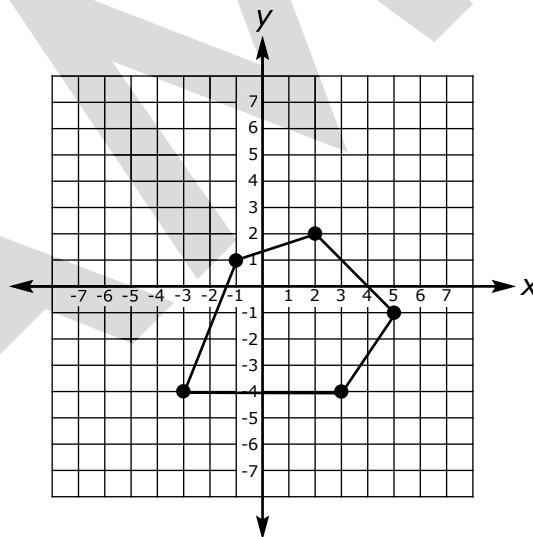


What is the shortest distance from Marty's house back to Kelly's house?

- A 4.5 km
- B 5 km
- C 6 km
- D 7 km

8.10B (M)

- The diagram on the grid below shows Figure A.



A student created a transformation of Figure A with the following coordinates: (4, 4), (10, -2), (6, -8), (-6, -8), and (-2, 2). Which statement correctly describes the relationship between Figure A and its transformation?

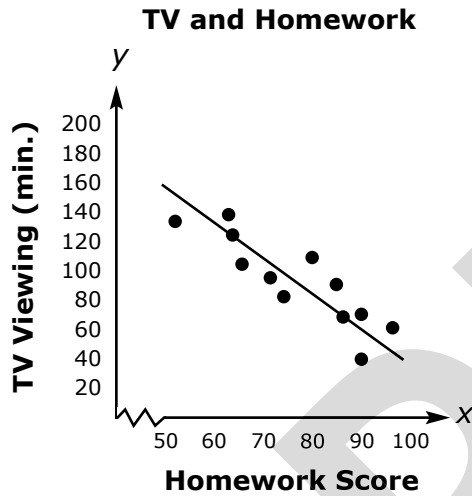
- A The figures are congruent because the transformation was a dilation.
- B The figures are congruent because the transformation was a translation.
- C The figures are not congruent because the transformation was a dilation.
- D The figures are not congruent because the transformation was a translation.

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8.5D (L)

2. The scatterplot below shows the relationship between students' average homework score and their average daily TV viewing time.



If a student has an average homework score of 90, the most reasonable prediction for her average daily TV viewing time is—

- A 40 minutes
- B 60 minutes
- C 70 minutes
- D 80 minutes

8.11B (M)

3. Leroy recorded the number of homework problems he solved each night for a week in the table below.

Homework Problems

Day	Number of Problems
Monday	24
Tuesday	16
Wednesday	22
Thursday	26
Friday	20

What is the mean absolute deviation (MAD) of this data set?

- A 2.88
- B 3.12
- C 3.44
- D 3.50

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8.12A (L)

3. Harry needs \$8,000 to buy a car. The table below shows auto loan information from four banks.

Auto Loan Information

Bank	Interest Rate	Repayment Terms
1	2.5%	5 years
2	3.0%	5 years
3	3.5%	5 years
4	4.0%	5 years

If Harry wants to pay the least amount for borrowing the money, from which bank should he borrow the \$8,000?

- A** Bank 1 **C** Bank 3
B Bank 2 **D** Bank 4

8.12D (M)

4. The table below shows information about the new savings accounts opened by four different customers.

Savings Accounts

Customer	Initial Deposit	Annual Interest Rate
Abigail	\$400	6% simple interest
Clarissa	\$600	7% compound interest
Edward	\$300	9% simple interest
Gregory	\$500	8% simple interest

If none of the customers makes any deposits or withdrawals, which customer will have earned the greatest amount of interest after 4 years?

- A** Abigail **C** Edward
B Clarissa **D** Gregory