

EOCT Review: Units 4 – 6

Unit 4: Describing Data

1) This table shows the average low temperature, in °F, recorded in Macon, GA, and Charlotte, NC, over a six-day period.

Day	1	2	3	4	5	6
Temperature, in °F, in Macon, GA	71	72	66	69	71	73
Temperature, in °F, in Charlotte, NC	69	64	68	74	71	75

Which conclusion can be drawn from the data?

- A. The interquartile range of the temperatures is the same for both cities.
- B. The lower quartile for the temperatures in Macon is lower than the lower quartile for the temperatures in Charlotte.
- C. The mean and median temperatures of Macon were higher than the mean and median temperatures of Charlotte.
- D. The upper quartile for the temperatures in Charlotte was lower than the upper quartile for the temperatures in Macon.

2) A school was having a coat drive for a local shelter. A teacher determined the median number of coats collected per class and the interquartile ranges of the number of coats collected per class for the freshman and for the sophomores.

- The freshman collected a median number of coats per class of 10, and the interquartile range was 6.
- The sophomores collected a median number of coats per class of 10, and the interquartile range was 4.

Which range of numbers includes the third quartile of coats collected for both classes?

- A. 4 to 14
- B. 6 to 14
- C. 8 to 15
- D. 12 to 15

3) A reading teacher recorded the number of pages read in an hour by each of her students. The numbers are shown below.

44, 49, 39, 43, 50, 44, 45, 49, 51

For this data, which summary statistic is NOT correct?

- A. The minimum is 39.
- B. The lower quartile is 44.
- C. The median is 45.
- D. The maximum is 51.

7) A teacher determined the median scores and interquartile ranges of scores for a test she gave to two classes.

– In Class 1, the median score was 70 points, and the interquartile range was 15 points.

– In Class 2, the median score was 75 points, and the interquartile range was 12 points.

Which range of numbers includes only third quartile of scores for both classes?

- A. 70 to 87 points
- B. 70 to 85 points
- C. 75 to 87 points
- D. 75 to 85 points

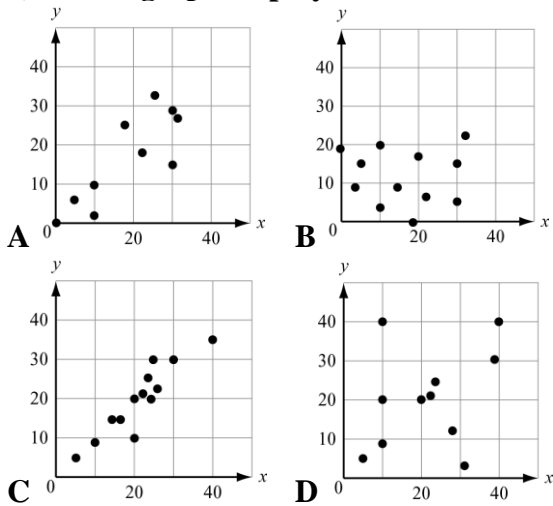
8) This table shows admission price for various museums in the same city.

Museum Prices				
\$9.00	\$12.00	\$9.75	\$8.25	\$11.25

Which is the mean absolute deviation for this set of data?

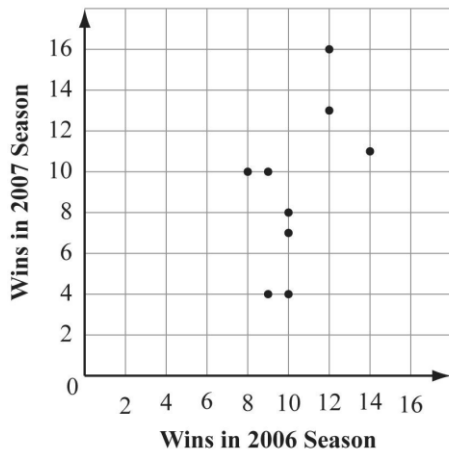
- A. \$1.26
- B. \$6.30
- C. \$10.05
- D. \$10.13

9) Which graph displays a set of data for which a linear function is the model of best fit?



10) This graph plots the number of wins in the 2006 and 2007 seasons for a sample of professional football teams.

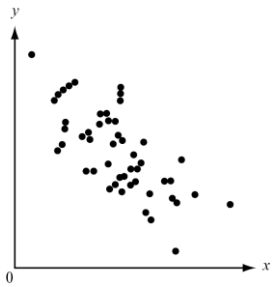
Team Wins, 2006 and 2007



Based on the regression model, what is the predicted number of 2007 wins for a team that won 5 games in 2006?

- A. 3
- B. 4
- C. 5
- D. 6

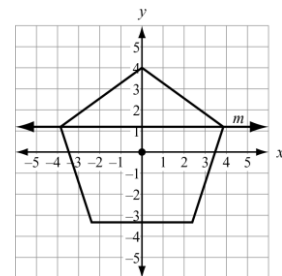
11) How would you describe the correlation of the two variables based on the scatter plot?



- A. positive, strong linear
- B. negative, weak linear
- C. negative, fairly strong linear
- D. little or no correlation

Unit 5: Transformations in the Coordinate Plane

1) A regular pentagon is centered about the origin and has a vertex at (0, 4).

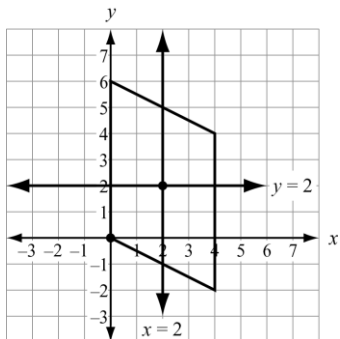


Which transformation maps the pentagon to itself?

- A. a reflection across line m
- B. a reflection across the x-axis
- C. a clockwise rotation of 100° about the origin
- D. a clockwise rotation of 144° about the origin

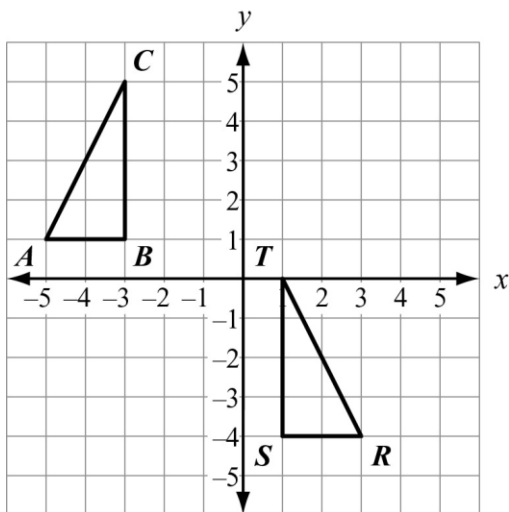
2) A parallelogram has vertices at $(0, 0)$, $(0, 6)$, $(4, 4)$, and $(4, -2)$.

Which transformation maps the parallelogram to itself?



- A. a reflection across the line $x = 2$
- B. a reflection across the line $y = 2$
- C. a rotation of 180° about the point $(2, 2)$
- D. a rotation of 180° about the point $(0, 0)$

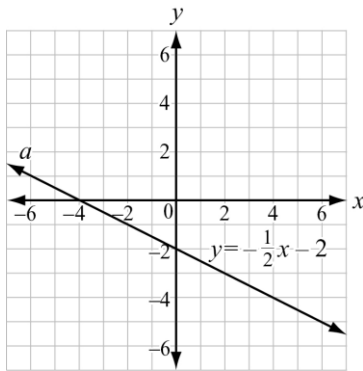
3) Which sequence of transformations maps $\triangle ABC$ to $\triangle RST$?



- A. Reflect $\triangle ABC$ across the line $x = -1$. Then translate the result 1 unit down.
- B. Reflect $\triangle ABC$ across the line $x = -1$. Then translate the result 5 units down.
- C. Translate $\triangle ABC$ 6 units to the right. Then rotate the result 90° clockwise about the point $(1, 1)$.
- D. Translate $\triangle ABC$ 6 units to the right. Then rotate the result 90° counterclockwise about the point $(1, 1)$.

Unit 6: Connecting Algebra and Geometry Through Coordinates

1) An equation of line a is $y = -\frac{1}{2}x - 2$

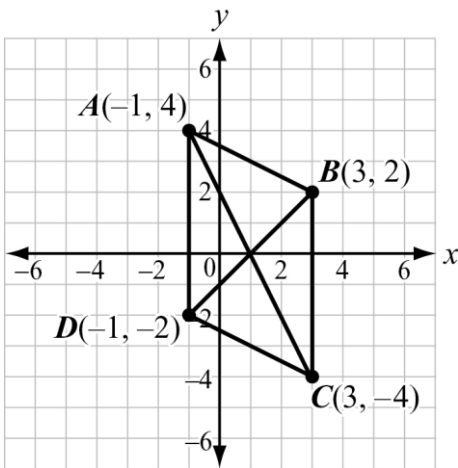


Which is an equation of the line that is perpendicular to line a and passes through the point $(-4, 0)$?

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

- C. $y = 2x - 2$
 D. $y = 2x + 8$

2) Parallelogram $ABCD$ has vertices as shown.



Which equation would be used in proving that the diagonals of parallelogram $ABCD$ bisect each other?

- A. $\sqrt{(3-1)^2 + (2-0)^2} = \sqrt{(1-3)^2 + (0+4)^2}$
 B. $\sqrt{(3+1)^2 + (2+0)^2} = \sqrt{(1+3)^2 + (0-4)^2}$
 C. $\sqrt{(-1-1)^2 + (4-0)^2} = \sqrt{(1-3)^2 + (0+4)^2}$
 D. $\sqrt{(-1+1)^2 + (4+0)^2} = \sqrt{(1+3)^2 + (0-4)^2}$

3) Given the points $P(2, -1)$ and $Q(-9, -6)$, what are the coordinates of the point on

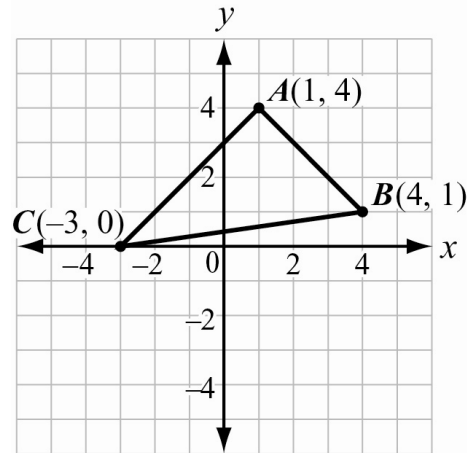
directed line segment PQ that partitions PQ in the ratio $\frac{3}{2}$?

A. $\left(\frac{-23}{5}, -4\right)$

C. $\left(\frac{-5}{3}, -\frac{8}{3}\right)$

B. $\left(\frac{-12}{5}, -3\right)$

D. $\left(\frac{-5}{3}, -4\right)$



4) Triangle ABC has vertices as shown.

What is the area of the triangle?

A. $\sqrt{72}$ square units

B. 12 square units

C. $\sqrt{288}$ square units

D. 24 square units