

1) Which statement BEST defines a circle?

- A A circle is the set of all points in a plane equidistant from each other.
- B A circle is the set of all points in a plane equidistant from a given point
- C A circle is the set of all points in a plane equidistant from a given segment.
- D A circle is the set of all points in a plane equidistant from a given arc.

2) The first term in an arithmetic sequence is 5. The fourth term in the sequence is -4. The tenth term is -22.

Which function can be used to find the n th term of the arithmetic sequence?

- A $f(n) = -n$
- B $f(n) = n + 4$
- C $f(n) = -3n + 8$
- D $f(n) = \frac{1}{2}(n + 5) + 2$

3) Jose wants to spend no more than \$30 on apples and grapes for the month. Apples cost \$1.50 per pound, and grapes cost \$2 per pound. Jose also wants his monthly caloric intake from apples and grapes to be greater than 2000 calories. He determines that 1 pound of apples has 200 calories and 1 pound of grapes has 300 calories.

Let a represent the number of pounds of apples, and g represent the number of pounds of grapes.

Which system of inequalities can be used to determine the number of pounds of apples and grapes that Jose can buy for a month?

- A
$$\begin{cases} 1.5a + 2g \geq 30 \\ 200a + 300g > 2000 \end{cases}$$
- B
$$\begin{cases} 1.5a + 2g \leq 30 \\ 200a + 300g > 2000 \end{cases}$$
- C
$$\begin{cases} 2a + 1.5g \leq 30 \\ 300a + 200g > 2000 \end{cases}$$
- 4) D
$$\begin{cases} 2a + 1.5g \geq 30 \\ 200a + 300g < 2000 \end{cases}$$

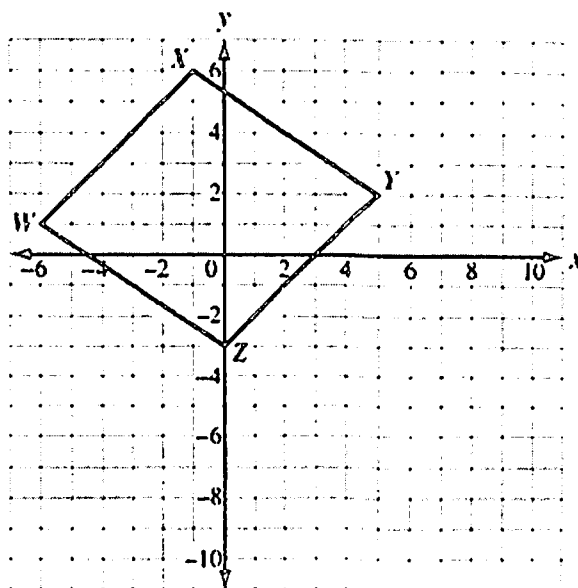
4) Which set of data points could be modeled by a decreasing linear function?

- A $\{(0, 0), (1, 8), (2, 15), (3, 22), (4, 30)\}$
- B $\{(0, 5), (1, 6), (2, 10), (3, 16), (4, 28)\}$
- C $\{(0, 50), (1, 42), (2, 33), (3, 25), (4, 16)\}$
- D $\{(0, 64), (1, 60), (2, 52), (3, 39), (4, 22)\}$

5) Look at quadrilateral $WXYZ$ on this coordinate grid.

What are the coordinates of the midpoint of \overline{XY} ?

- A $(3, 2)$
- B $(2, 4)$
- C $(2, 5)$
- D $(-1, 6)$



6) The total daily expenses to operate Sheila's pie bakery are the cost of salaries and ingredients. Sheila has four employees, and she pays each worker a daily rate. On average, it costs the same amount of money to make each pie. This expression shows the total daily expenses for Sheila's bakery to make x pies.

$$4(75) + \$0.50x$$

What does the term $4(75)$ represent?

- A Each of the 4 employees earns \$75 per day.
- B Sheila must sell 600 pies per day.
- C The total daily expenses are \$300.
- D Customers pay \$4.50 per pie.

7) Which function represents the data in the table?

x	3	6	10	15
y	2.5	4	6	8.5

- A $f(x) = 2x + 1$
- B $f(x) = \frac{x}{2} - 1$
- C $f(x) = 2x - 1$
- D $f(x) = \frac{x}{2} + 1$

8) What is the solution to this system of equations?

$$x - 3y = 1$$
$$x - 2y = 6$$

- A (-4, -5)
- B (-2, -1)
- C (4, 1)
- D (16, 5)

9) Information about the costs of three catering companies is shown in this table.

Catering Company Costs

Acme Catering Company	Best Foods Company	Creative Catering Company
\$6 per person plus a flat \$100 time and equipment charge	\$8 per person plus a flat \$40 time and equipment charge	\$10 per person charge with no other fees

Gavin can spend no more than \$300 on catering. What is the greatest number of people he can invite using one of the three caterers?

- A 30
- B 32
- C 33
- D 37

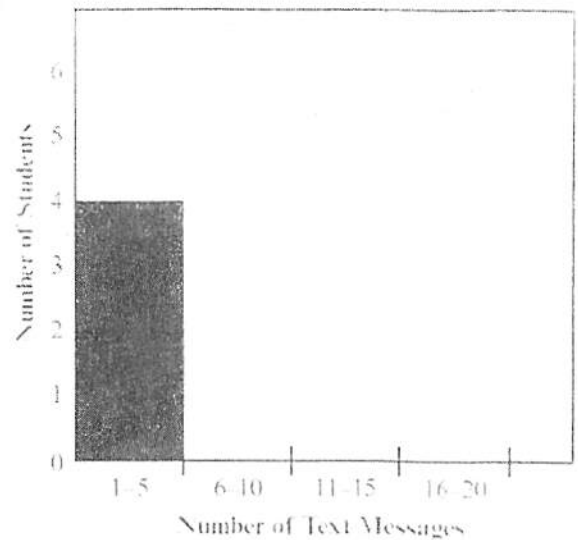
10) Parallelogram $ABCD$ has four congruent sides but no right angles. The diagonals of $ABCD$ intersect at point P . A single transformation maps parallelogram $ABCD$ onto itself.

Which phrase could NOT describe this transformation?

- A a rotation 90° clockwise about point P
- B a rotation 180° about point P
- C a reflection across the line that passes through points A and C
- D a reflection across the line that passes through points B and D

11) This list shows the number of text messages each student in a group sent in one day.

16, 2, 8, 5, 3, 20,
15, 4, 9, 16, 19, 17



The students are creating this histogram to show their data.

What should be the height of the bar for 6–10 text messages?

- A 1
- B 2
- C 4
- D 5

12) Jill solved the inequality $-\frac{x}{4} < \frac{x+2}{3}$ for x .

Her solution is shown.

Step 1: $-3x < 4x + 8$

Step 2: $-3x - 4x < 8$

Step 3: $-7x < 8$

Step 4: $x < -\frac{8}{7}$

Part A: Explain the mistake Jill made when solving for x .

Part B: Solve the inequality $-\frac{x}{4} < \frac{x+2}{3}$ for x .

Coordinate Algebra EOC Practice Test Key

- 1) B
- 2) C
- 3) B
- 4) C
- 5) B
- 6) A
- 7) D
- 8) D
- 9) C
- 10) A
- 11) B

12a) Jill did not flip the inequality symbol in step 4 when dividing by a negative number.

12b) $-3x < 4x + 8$

$-7x < 8$

$x > -8/7$