Sample Test 2

Name_____

Use the distance formula to find the distance between the pair of points.

1) (5, –5) (7, –1)

A) $2\sqrt{5}$ B) $12\sqrt{3}$ C) 12 D) 2

Find the indicated point.

2) Find the midpoint of the line segment whose endpoints are (3, 7) and (9, 3).

A) (12, 10) B) (–6, 4) C) (5, 6) D) (6, 5)

3) If (1, 4) is the endpoint of a line segment, and (6, 3) is its midpoint, find the other endpoint.

A) (–9, 6) B) (–1, 14) C) (11, 5) D) (11, 2)

Provide an appropriate response.

4) Give the equation for a circle.
Center at (4, –6), radius 5

A) $(x - 6)^2 + (y + 4)^2 = 5$ B) $(x - 4)^2 + (y + 6)^2 = 25$

C) $(x + 6)^2 + (y - 4)^2 = 5$ D) $(x + 4)^2 + (y - 6)^2 = 25$

Find the center and the radius of the circle.

5) $x^2 - 12x + 36 + y^2 - 8y + 16 = 16$

A) (6, 4), r = 4 B) (–6, –4), r = 16 C) (4, 6), r = 4 D) (–4, –6), r = 16

Find the slope of the line that goes through the pair of points.

6) (–8, –5) and (1, 9)

A) Undefined B) 4 C) $1\frac{9}{5}$ D) $1\frac{5}{9}$

Write an equation in standard form for a line satisfying the given conditions.

7) Through (3, 2); $m = -\frac{3}{7}$

A) $7x + 3y = -23$ B) $3x - 7y = 23$ C) $3x + 7y = 23$ D) $3x + 7y = -23$

Write the equation in slope–intercept form.

8) $5x - 3y = 4$

A) $y = \frac{5}{3}x - \frac{4}{3}$ B) $y = \frac{3}{5}x + \frac{4}{5}$ C) $y = \frac{5}{3}x + \frac{4}{3}$ D) $y = 5x - 4$

Write an equation for the line.

9) Through (–7, –10) perpendicular to $-7x - 8y = 73$

A) $-8x - 7y = 73$ B) $-7x + 8y = -14$ C) $-8x + 7y = -14$ D) $-8x - 7y = -14$

Decide whether the relation defines a function.

10) {(–5, –1), (–2, 6), (4, –9), (4, 1)}

A) Not a function B) Function

Give the domain of the function.

11) $f(x) = \sqrt{8 - x}$

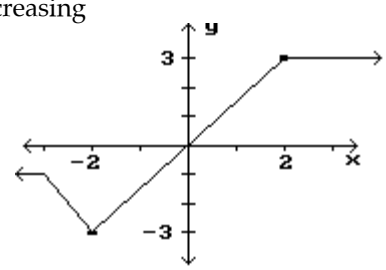
A) $x > \sqrt{17}$ B) $x \leq 8$ C) $x \neq 8$ D) All real numbers

12) $f(x) = \dfrac{(x + 5)(x - 5)}{x^2 - 25}$

A) $x \neq 5, x \neq -5$ B) $x \neq 25$ C) All real numbers D) $x > 25$

Identify the intervals where the function is changing as requested.

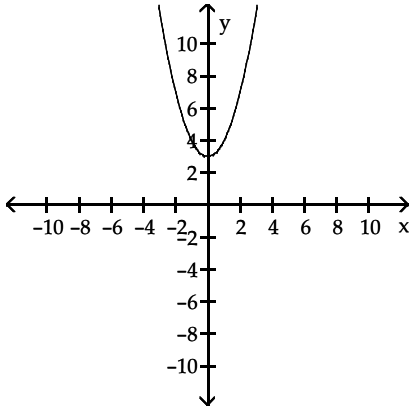
13) Increasing



A) $(-3, \infty)$ B) $(-2, \infty)$ C) $(-3, 3)$ D) $(-2, 2)$

The graph of a function is given. Decide whether it is even, odd, or neither.

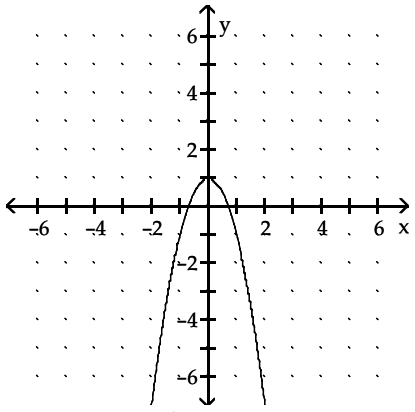
14)



A) Neither B) Odd C) Even

Match the correct function to a given graph.

15)



A) $f(x) = -2x^2 - 1$ B) $f(x) = -2x^2 + 1$ C) $f(x) = -2x^2$ D) $f(x) = 1 - x^2$

Determine if the given function is even, odd, or neither.

16) $f(x) = -3x^5 + x^3$

A) Even B) Neither C) Odd

Tell whether the graph of the function opens upward or downward and whether the graph is wider, narrower, or the same as $f(x) = x^2$.

17) $f(x) = -9x^2$

A) Downward, wider B) Upward, wider

C) Upward, narrower D) Downward, narrower

Find the requested function value.

18)

$$\text{If } f(x) = \begin{cases} x^3 & \text{if } x < 0 \\ 3x + 5 & \text{if } x \geq 0 \end{cases} \quad \text{find } f(-1)$$

A) -1 B) 1 C) 8 D) 2

Find the requested value.

19) $f(x) = -4x - 1,\ g(x) = 2x^2 - 4x + 3$

Find $\left(\frac{f}{g}\right)(-3)$.

A) $\frac{13}{33}$ B) $-\frac{1}{3}$ C) $\frac{11}{27}$ D) $\frac{1}{3}$

Find the indicated composite for the pair of functions.

20) $(f \circ g)(x)$: $f(x) = 8x + 13,\ g(x) = 2x - 1$

A) $16x + 21$ B) $16x + 5$ C) $16x + 12$ D) $16x + 25$

Answer Key
Testname: STEST2.TST

1) A
2) D
3) D
4) B
5) A
6) D
7) C
8) A
9) C
10) A
11) B
12) A
13) D
14) C
15) B
16) C
17) D
18) A
19) D
20) B