MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Give the domain and range of the relation.
1) \{(11, -3), (2, -2), (2, 0), (6, 2), (18, 4)\}
   A) domain: [-3, -2, 4]; range: {11, 6, 18}
   B) domain: {11, 6, 2, 18}; range: [-3, -2, 4]
   C) domain: [-3, -2, 0, 2, 4]; range: [11, 6, 2, 18]
   D) domain: [11, 6, 2, 18]; range: [-3, -2, 0, 4]

Evaluate the function at the given value of the independent variable and simplify.
2) \(f(x) = \frac{x^3 + 7}{x^2 - 2}\);
   f(-2)
   A) - 4
   B) \(\frac{1}{2}\)
   C) \(\frac{11}{2}\)
   D) \(\frac{1}{4}\)

3) \(f(x) = x^2 - 1\);
   f(x - 2)
   A) \(x^2 - 3\)
   B) \(x^2 + 4\)
   C) \(x^2 - 4x + 4\)
   D) \(x^2 - 4x + 3\)

Use the graph to determine the function's domain and range.
4)
   A) domain: [0, \(\infty\)]
   range: (-\(\infty\), \(\infty\))
   B) domain: (-\(\infty\), \(\infty\))
   range: [-1, \(\infty\))
   C) domain: [0, \(\infty\)]
   range: [-1, \(\infty\))
   D) domain: [0, \(\infty\)]
   range: [0, \(\infty\)]
Identify the intercepts.

5) ______

Choose the correct answer from the options below:

A) (2, 0), (0, 8)  
B) (-2, 0), (0, 8)  
C) (-2, 0), (0, -8)  
D) (-2, -2), (8, 8)

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

6) f(x) = 5x^2 + x^4  
A) Even  
B) Neither  
C) Odd

7) f(x) = -5x^5 + x^3  
A) Odd  
B) Even  
C) Neither

8) f(x) = x^4 - x^3  
A) Odd  
B) Neither  
C) Even

Evaluate the piecewise function at the given value of the independent variable.

9) f(x) = \begin{cases} 3x + 1 & \text{if } x < -1 \\ -2x - 5 & \text{if } x \geq -1 \end{cases}; f(2)
   
   A) -9  
   B) -8  
   C) -3  
   D) 1

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

10) (-8, 8), (-5, 2)
   
   A) \frac{16}{7}  
   B) -\frac{1}{2}  
   C) -2  
   D) \frac{7}{16}

Use the given conditions to write an equation for the line in point-slope form.

11) Slope = 4, passing through (-3, 7)
   
   A) y + 7 = 4(x - 3)  
   B) y - 7 = 4(x + 3)  
   C) y = 4x + 19  
   D) x - 7 = 4(y + 3)

12) Passing through (5, 8) and (3, 4)
   
   A) y + 8 = 2(x + 5) or y + 4 = 2(x + 3)  
   B) y - 8 = 2(x - 3) or y - 4 = 2(x - 5)  
   C) y - 8 = 2(x - 5) or y - 4 = 2(x - 3)  
   D) y - 8 = 5(x + 5) or y - 4 = 3(x - 8)

Use the given conditions to write an equation for the line in slope-intercept form.

13) Slope = -3, passing through (-5, 3)
   
   A) y = -3x + 12  
   B) y = -3x - 12  
   C) y - 3 = -3x + 5  
   D) y - 3 = x + 5
Graph the function.

14) \( f(x) = \begin{cases} 
  x + 1 & \text{if } x < 1 \\
  \frac{4}{3} & \text{if } x \geq 1 
\end{cases} \)

A)

B)

C)

D)
Graph the line whose equation is given.

15) \( y = \frac{3}{5}x - 1 \)
Graph the equation in the rectangular coordinate system.

16) \( x = 5 \)
17) \( y = 5 \)
Graph the linear function by plotting the x- and y-intercepts.

18) $4x - 24y - 24 = 0$

A) intercepts: $(0, -1), (6, 0)$

B) intercepts: $(0, 6), (-1, 0)$

C) intercepts: $(0, -1), (-6, 0)$

D) intercepts: $(0, -6), (1, 0)$

Use the given conditions to write an equation for the line in the indicated form.

19) Passing through $(4, 3)$ and parallel to the line whose equation is $y = 2x - 6$;

point-slope form

A) $y - 3 = x - 4$   
B) $y - 4 = 2(x - 3)$   
C) $y = 2x$   
D) $y - 3 = 2(x - 4)$
20) Passing through \((5, 3)\) and perpendicular to the line whose equation is \(y = 2x + 7\);

point-slope form

A) \(y = -2x - 11\)  

B) \(y - 5 = \frac{1}{2}(x - 3)\)

C) \(y - 3 = -\frac{1}{2}(x - 5)\)  

D) \(y - 3 = \frac{1}{2}(x + 5)\)
Answer Key
Testname: EXAM3_REVIEW

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