
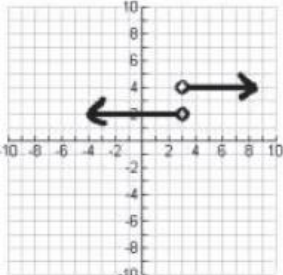
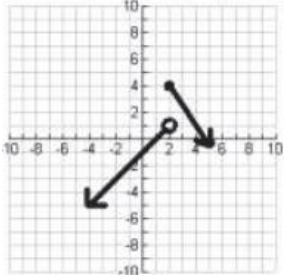
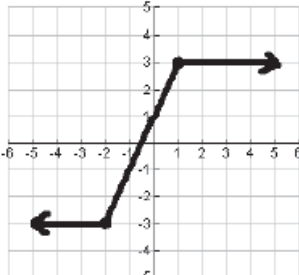
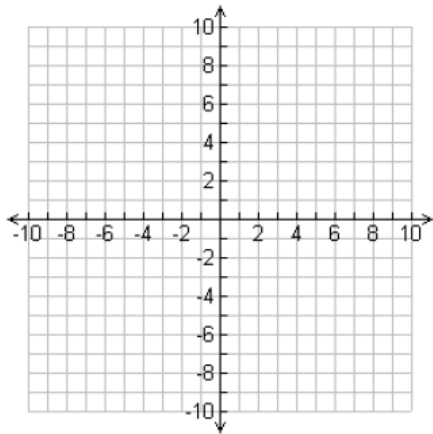


Final Exam - Review

<p>1) $T = \frac{7}{6} \pi a b c$ find the approximate value of b if Temperature = 2520 a = 12, c = 5</p>	<p>2) Solve for x: $\frac{3}{5}x + 6 = \frac{1}{5}(x - 20)$</p>
<p>3) Solve $5x - 7 \leq 3(x - 7)$</p>	<p>4) Solve $-3(x - 3) \geq -5x + 1$</p>
<p>5) $x \leq -3$ or $x > 4$</p> 	<p>6) Solve $4x - 12 = 8$</p>
<p>7) Solve $\frac{-2}{3} 2x + 8 < -4$</p>	<p>8) Twice the sum of a number and 7 is at most -5. Write the expression and solve.</p>
<p>9) Find the domain and range:</p> 	<p>10) Find the domain and range:</p> 
<p>11) Find the domain and range:</p> 	<p>12) $h(n) = -2n^2 + 4$; Find $h(4)$</p>
<p>13) Find k given $m = -2$ and points $(2, -3)$ and $(k, 7)$.</p>	<p>14) State the value of the <i>slope</i> that is parallel and <i>slope</i> that is perpendicular to $\frac{-2}{7}$.</p> <p>parallel = perpendicular =</p>
<p>15) State the x-intercept and y-intercept for the equation $3y + 12 = 5x$.</p>	<p>16) Write the equation of the line through $(-3, 5)$ and perpendicular to $y = \frac{-1}{3}x + 7$.</p>

17) Graph $3x + 4y = 12$



18) State the transformations:

$$z(x) = \frac{-2}{5} f(x+7) - 3$$

a) _____

b) _____

c) _____

d) _____

19)

$$f(x) = \begin{cases} -2x-1 & x < -5 \\ 3x^2-2 & -5 \leq x < 2 \\ 2x^2-x+4 & x \geq 2 \end{cases}$$

$f(-7) =$ $f(-5) =$ $f(2) =$

20) A system of linear equations with no solutions has _____ lines.

21) Solve

$$\begin{aligned} -4x + y &= 6 \\ -5x - y &= 21 \end{aligned}$$

22) Solve

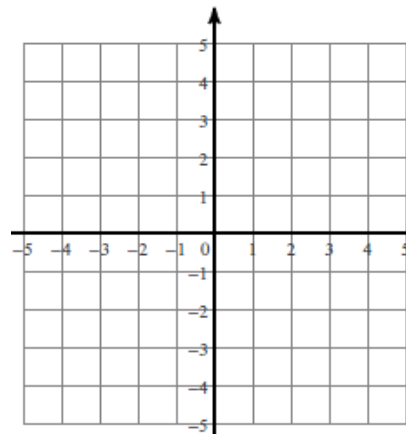
$$\begin{aligned} \frac{x}{5} + \frac{2y}{3} &= \frac{68}{15} \\ \frac{2}{7}x - \frac{3}{14}y &= \frac{9}{14} \end{aligned}$$

23) Solve

$$\begin{aligned} 3x - y + 5z &= 34 \\ x + 3y - 6z &= 2 \\ -3x + y - 2z &= -6 \end{aligned}$$

24) Graph

$$\begin{aligned} 3x + y &\geq -3 \\ x + 2y &\leq 4 \end{aligned}$$



25) State the dimensions of the solution matrix.

a) $(2 \times 3) + (3 \times 2)$

b) $(3 \times 5) (5 \times 4)$

26) Simplify: $\begin{bmatrix} 1 & 5 \\ -4 & 0 \end{bmatrix} + \begin{bmatrix} 2 & -8 \\ 3 & 1 \end{bmatrix}$

27) Simplify: $-3 \begin{bmatrix} 3 & -2 \\ 5 & -7 \end{bmatrix}$	28) Simplify: $\begin{bmatrix} -8 & 3 \\ -1 & -4 \end{bmatrix} \begin{bmatrix} -7 & 2 \\ 0 & 4 \end{bmatrix}$								
29) Find the determinate $\begin{vmatrix} 7 & 4 \\ -3 & -2 \end{vmatrix}$	30) Find the area of the triangle with the given vertices: $(-5, -3)$, $(-1, 3)$, $(8, -1)$.								
31) Factor: $12x^2 + 11x + 2$	32) Factor: $x^3 + 2x^2 - 4x - 8$								
33) Factor: $3x^2 - 108$	34) Factor: $x^4 + 8x$								
35) Find the vertex: $y = -\frac{3}{4}(x - 6)^2 - 5$	36) Find the vertex: $g(x) = -2x^2 - 16x - 35$								
37) Find the x-intercepts and vertex: $y = -5(x + 4)(x + 10)$	38) Write the quadratic in standard form: $j(x) = -2(x - 3)^2 - 3$								
39) Solve: $3x^2 + 17 = 179$	40) Solve: $\frac{1}{4}(x - 5)^2 - 27 = 0$								
41) Simplify: $(7 + 3i) - (5 + 6i) =$ $(5 - 7i)(7 + 8i) =$ $7i(-3 - 6i) =$	42) Simplify: $\sqrt{-72} =$ $4\sqrt{3} + 8\sqrt{3} =$ $\frac{-7}{5 + 4i} =$ $\frac{7\sqrt{3}}{\sqrt{5}} =$								
43) If $y = 3x^2 - 6x + 7$ was transformed into the form $y = a(x - h)^2 + k$, then what is the value of h ?	44) Solve for x for the given equation: $-3x^2 + 30x - 84 = 0$								
45) Complete the table for the given equations: <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>x</th> <th>y</th> </tr> </thead> <tbody> <tr> <td>-36</td> <td></td> </tr> <tr> <td>2</td> <td></td> </tr> <tr> <td>23</td> <td></td> </tr> </tbody> </table> <p>a) $y = -12x^2 - 16x + 19$ b) $y = 12x^2 + 16x + 19$</p>	x	y	-36		2		23		46) Graph: $f(x) = -x^2 - 8x - 13$ and $f(x) = (x - 3)^2 + 1$
x	y								
-36									
2									
23									
47) Write the given equation in vertex form by completing the square: $y = 4x^2 - 24x + 7$	48) Solve for x for the given equations: $-3x^2 + 30x - 84 = 0$ $5x^2 - 8 = 13x + 4 - 2x^2$								