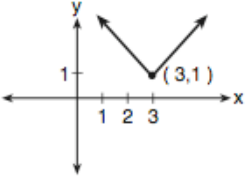
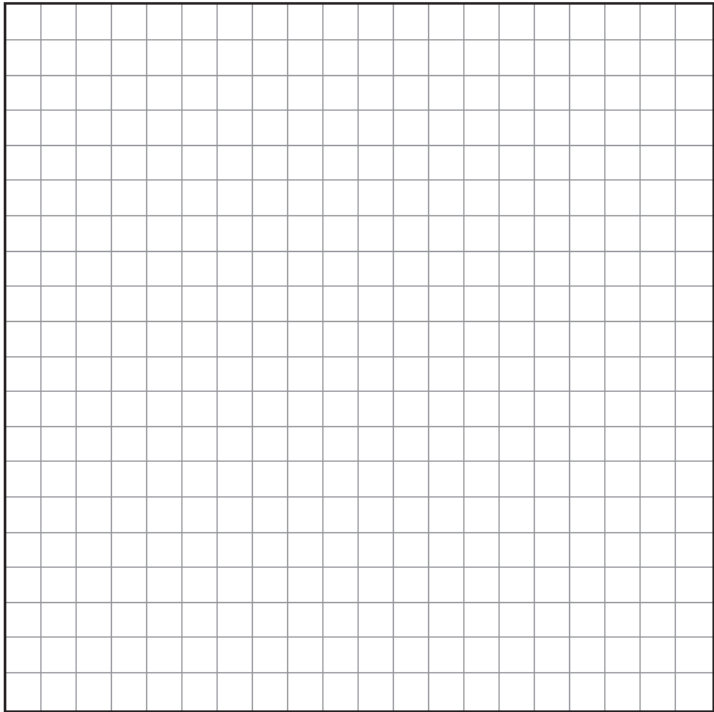


<p>1. Which equation is represented by the accompanying graph?</p>  <p>(1) $y = x - 3$ (2) $y = (x - 3)^2 + 1$ (3) $y = x + 3 - 1$ (4) $y = x - 3 + 1$</p>	<p>3. Write the equation of an ellipse whose center is $(3, -2)$ and is tangent to the y-axis.</p>
<p>2. The inverse relation of the function defined by $\{(1, 2), (2, 3), (3, 4)\}$ is</p> <p>(1) $\{(-1, -2), (-2, -3), (-3, -4)\}$ (2) $\{(2, 1), (3, 2), (4, 3)\}$ (3) $\{(1, \frac{1}{2}), (\frac{1}{2}, \frac{1}{3}), (\frac{1}{3}, \frac{1}{4})\}$ (4) $\{(3, 4), (2, 3), (1, 2)\}$</p>	<p>4. Rationalize the denominator:</p> $\frac{\sqrt{5} + \sqrt{2}}{\sqrt{2} - \sqrt{5}}$
<p>5. Joanna earns money as a part-time receptionist according to the function $j(x) = 8x - 2.35$ where x is the number of hours she works. Her father suggests that Joanna invest her earnings in a company whose quarterly payout is represented by the function $p(x) = 4x + 28$. What single function would represent the quarterly value of the investment of all of Joanna's earnings in the company her father recommends?</p>	
<p>6. A pelican flying in the air over water drops a crab from a height of 30 feet. The distance the crab is from the water as it falls can be represented by the function $h(t) = -16t^2 + 30$, where t is time, in seconds. To catch the crab as it falls, a gull flies along a path represented by the function $g(t) = -8t + 15$. Can the gull catch the crab before the crab hits the water? Justify your answer.</p>	

7. Which statement describes the graphs of the equations $x = -1$ and $3x^2 = 10y^2 + 4$?
- (1) They do not intersect.
 - (2) They intersect in the second quadrant, only.
 - (3) They intersect in the third quadrant, only.
 - (4) They intersect in the second and in the third quadrants.

9. If a varies inversely with b and a is multiplied by $\frac{3}{2}$, then b is
- (1) doubled
 - (2) multiplied by $\frac{2}{3}$
 - (3) halved
 - (4) tripled

8. If the point (a, b) lies on the graph of $y = f(x)$, the graph of $y = f^{-1}(x)$ must contain point
- (1) $(0, b)$
 - (2) (b, a)
 - (3) $(a, 0)$
 - (4) $(-a, -b)$

10. State the inverse of $f(x) = \{(1,4), (2,9), (3,5)\}$.

11. Draw $f(x) = 2x^2$ and $f^{-1}(x)$ in the interval $0 \leq x \leq 2$ on the accompanying set of axes. State the coordinates of the points of intersection.

