

Chapter 3 Answers

Getting Ready, page 220

- 24
 - 78
 - 46
 - 210
 - 9200
 - 1
 - 6
 - 1
- straight line through (0, 2) and (1, 5)
 - straight line through (0, -4) and (2, 0)
 - parabola opening up, vertex (0, 2) through (-1, 3) and (1, 3)
 - parabola opening up, vertex (-3, -7) through (-5, -3) and (-1, -3)
 - parabola opening up, vertex (3, 1) through (2, 3) and (4, 3)
 - parabola opening down, vertex (1, 16) through (0, 15) and (2, 15)
- $x = 6$
 - $x = 2$
 - $d = -2$
 - $c = 2.5$
 - $m = 1$
 - $g = 4$
 - $x = 8$
 - $c = 72$
 - $y = 1$
- >
 - <
 - >
 - >
- cost; depends on distance
 - \$0.25/km
 - $c = 0.25d + 45$
 - straight line starting at (0, 45) going up to right through (240, 105)
 - \$155
 - 320 km
- $y = 2x + 5$
 - $y = \frac{-3}{2}x + 5$
 - $y = \frac{-2}{3}x + \frac{5}{3}$
 - $y = \frac{-2}{3}x + \frac{4}{3}$
 - $y = \frac{1}{10}x - \frac{1}{3}$
 - $y = \frac{-5}{3}x - 5$
- 0.776 m
 - 29 m
 - 28.216 m
 - The ball hit the ground before 5 s have elapsed.
- $y = (x + 3)^2 - 9$
 - $y = 2(x + 1)^2 - 2$
 - $y = 2(x - 1)^2 + 3$
 - $y = -3(x - 1)^2 - 4$
 - $y = 2(x + 5)^2 - 7$
 - $y = -5(x - 1)^2 - 6$
- (2, 4), $x = 2$, opens up
 - (-3, 5), $x = -3$, opens down
 - (-1, -9), $x = -1$, opens up
 - (2.5, 9.5), $x = 2.5$, opens down
- Reflect $y = x^2$ in the x -axis and then translate + 4 units vertically (4 units up).
 - Translate $y = x^2$ horizontally 5 units to the right.
 - Translate $y = x^2$ horizontally -3 units (3 units left) and then vertically -1 unit (1 unit down). The order does not matter.
 - Reflect $y = x^2$ in the x -axis, stretch vertically by factor 2 (these two could be reversed) and then translate 4 units right and 5 units down.
- parabola opening up, vertex (0, 2) through (-1, 3) and (1, 3)
 - parabola opening up, vertex (-3, 0) through (-4, 1) and (-2, 1)
 - parabola opening down, vertex (0, 0) through (-2, -4) and (2, -4)
 - parabola opening up, vertex (0, 0) through (2, 2) and (-2, 2)
 - parabola opening up, vertex (-1, 3) through (-3, 7) and (1, 7)
 - parabola opening up, vertex (2, 12) through (0, 0) and (4, 0)
- Stretch $y = x^2$ vertically with factor 2 and then translate 3 units right and 11 units down.
- neither; line sloping downward to right
 - quadratic; $y = -4.9x^2 + 20x + 1$; parabola opening downward with vertex (2.04, 21.4)
- $x = \pm 6$
 - $x = -7$ or $x = 3$
 - $x = \pm 7$
 - $m = 3$