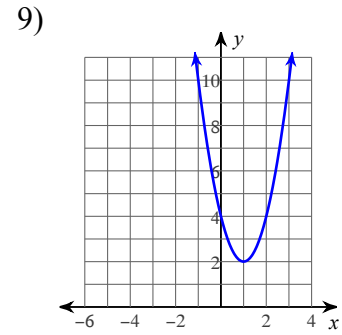
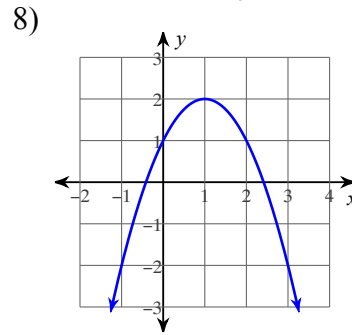
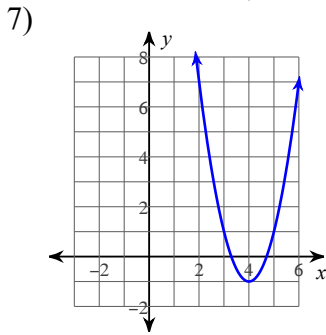
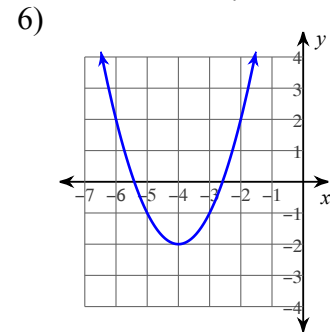
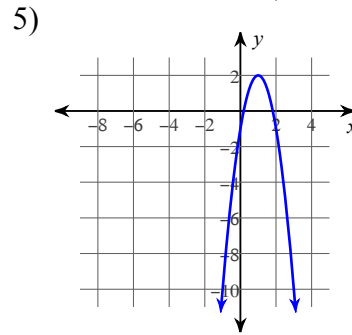
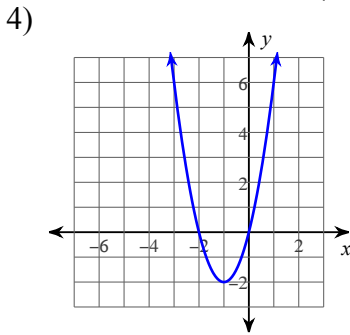
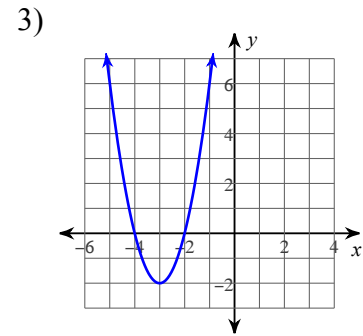
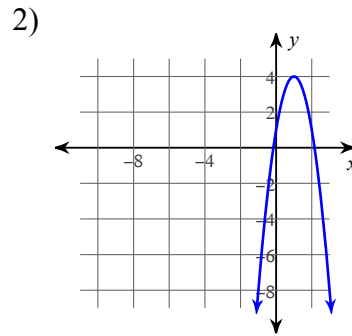
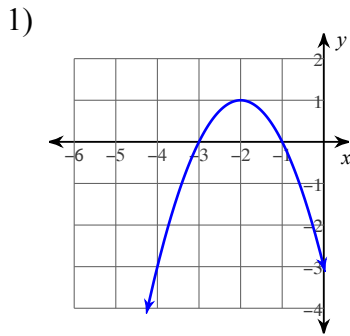


Answers to Unit 4 Quadratic Modeling Review



10) $y = 4(x - 2.5)^2 - 49$
Vertex $(2.5, -49)$

11) $y = -(x + 10)^2 + 4$
Vertex $(-10, 4)$

12) $y = -2(x - 4.5)^2 + 40.5$
Vertex: $(4.5, 40.5)$

13) $y = \frac{3}{4}x(x - 2)$

14) $y = -\frac{1}{21}(x - 7)(x + 3)$

15) $y = -\frac{2}{9}(x + 4)(x - 6)$

16) $y = -\frac{4}{9}(x - 2)^2 + 10$

17) $y = -\frac{4}{9}(x - 2)^2 + 10$

18) $y = -\frac{5}{4}(x - 2)^2 + 5$

19) a. $(0, 1300)$
b. $(15, 1200)$

20) $y = \frac{9}{6250}(x - 250)^2$

c. $y = \frac{4}{9}(x - 15)^2 + 1200$

- 21) a. 18 yards
b. 21.23 yards
c. Yes. The goal post is only $10/3$ yards tall, so the ball clears the goal post by 17.89 yards.
d. D: $[0, 36]$ R: $[0, 23]$

- 22) a. 0.19 seconds
b. 28.56 feet
c. 27 feet, 18 feet
d. 1.52 seconds
e. D: $[0, 1.52]$ R: $[0, 28.56]$

- 23) a. 63.4 feet
b. 1.62 seconds
c. 80.75 feet
d. 5.12 seconds

- 24) a. 207.10 feet
b. 3.07 seconds
c. 182 feet, 97.52 feet
d. 6.13 seconds
e. D: $[0, 6.13]$ R: $[0, 207.10]$