Test Review answers

Review Exercises *(page 761)*

2. Parabola **4.** $y^2 = -8(x - 2)$

6. $(x - 2)^2 = 8(y - 2)$

8. $y = 4x + 8$, x-intercept: $(-2, 0)$ **10.** $y^2 = 6x$

12. $\dfrac{(x-2)^2}{3} + \dfrac{(y-2)^2}{4} = 1$

14. $\dfrac{(x+4)^2}{4} + \dfrac{(y-5)^2}{36} = 1$

16. 36 feet, 28 feet, $2\sqrt{128} \approx 22.6$ feet

18. Center: $(-2, 3)$

Vertices: $(-7, 3), (3, 3)$

Foci: $\left(-2 \pm \sqrt{21}, 3\right)$

$e = \dfrac{\sqrt{21}}{5}$

20. Center: $(5, -3)$

Vertices: $(5, 3), (5, -9)$

Foci: $\left(5, -3 \pm \sqrt{35}\right)$

$e = \dfrac{\sqrt{35}}{6}$

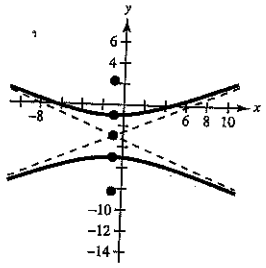
22. $\dfrac{x^2}{4} - \dfrac{(y-2)^2}{12} = 1$ **24.** $\dfrac{y^2}{16/5} - \dfrac{(x-3)^2}{4/5} = 1$

26. Center: $(-1, -3)$

Vertices: $(-1, -1), (-1, -5)$

Foci: $\left(-1, -3 \pm \sqrt{29}\right)$

Asymptotes: $y = \frac{2}{5}x - \frac{13}{5}, y = -\frac{2}{5}x - \frac{17}{5}$

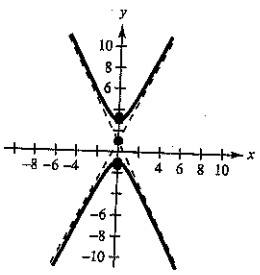


28. Center: $(0, 1)$

Vertices: $(0, 3), (0, -1)$

Foci: $\left(0, 1 \pm \sqrt{5}\right)$

Asymptotes: $y = 2x + 1, y = -2x + 1$



30. $\dfrac{576x^2}{25} - \dfrac{576y^2}{2279} = 1, \dfrac{64(x-1)^2}{25} - \dfrac{64y^2}{39} = 1$

32. Hyperbola

Review Exercises *(page 761)*

1. Hyperbola **3.** $(x - 4)^2 = -8(y - 2)$

5. $(y - 2)^2 = 12x$ **7.** $2x + y - 2 = 0$; $(1, 0)$

9. About 19.6 meters **11.** $\dfrac{(x-2)^2}{25} + \dfrac{y^2}{21} = 1$

13. $\dfrac{(x-2)^2}{4} + (y-1)^2 = 1$ **15.** 3 feet atop the pillars

17. Center: $(1, -4)$

Vertices:

$(1, 0), (1, -8)$

Foci: $\left(1, -4 \pm \sqrt{7}\right)$

Eccentricity: $\dfrac{\sqrt{7}}{4}$

19. Center: $(-2, 1)$

Vertices:

$(-2, 11), (-2, -9)$

Foci: $\left(-2, 1 \pm \sqrt{19}\right)$

Eccentricity: $\dfrac{\sqrt{19}}{10}$

21. $\dfrac{(x+2)^2}{64} - \dfrac{(y-3)^2}{36} = 1$ **23.** $\dfrac{5(x-4)^2}{16} - \dfrac{5y^2}{64} = 1$

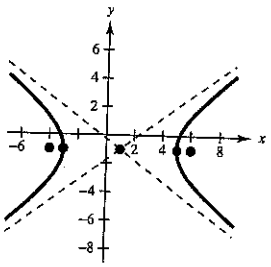
25. Center: $(1, -1)$

Vertices: $(5, -1), (-3, -1)$

Foci: $(6, -1), (-4, -1)$

Asymptotes:

$y = -1 \pm \frac{3}{4}(x - 1)$



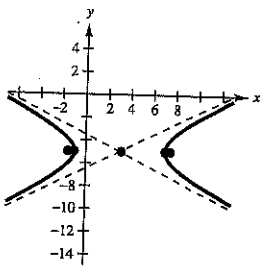
27. Center: $(3, -5)$

Vertices: $(7, -5), (-1, -5)$

Foci: $\left(3 \pm 2\sqrt{5}, -5\right)$

Asymptotes:

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



29. 72 miles **31.** Ellipse

odds

evens