

## Chapter 7U Review Test, page 633

- ellipse, vertices  $(4, 0)$ ,  $(-4, 0)$ , foci:  $(\sqrt{7}, 0)$ ,  $(-\sqrt{7}, 0)$
  - hyperbola, vertices:  $(1, 0)$ ,  $(-1, 0)$ , foci:  $(\sqrt{2}, 0)$ ,  $(-\sqrt{2}, 0)$
  - circle, vertices  $(3, 0)$ ,  $(-3, 0)$ ,  $(0, 3)$ ,  $(0, -3)$ , foci:  $(0, 0)$
  - parabola, vertex:  $(3, 0)$ , foci:  $(2, 0)$ ,  $(-2, 0)$
  - ellipse, vertices:  $(-7, -1)$ ,  $(3, -1)$ , foci:  $(-6, 0)$ ,  $(2, 0)$
- $x^2 + (y + 2)^2 = 9$
  - $\frac{x^2}{4} + \frac{y^2}{9} = -1$       (c)  $x^2 = 24y$
- focus:  $(0, \frac{-5}{4})$ , directrix:  $y = \frac{5}{4}$
- In the equation:  $\frac{x^2}{a^2} - \frac{y^2}{b^2} = 1$ , the transverse axis is horizontal (along the x-axis). In the equation:  $\frac{x^2}{b^2} - \frac{y^2}{a^2} = 1$ , the transverse axis is vertical (along the y-axis).
- vertices:  $(0, 5)$ ,  $(0, -5)$       (b)  $y = \pm \frac{5}{3}x$
  - hyperbola
- x-int.:  $(5, 0)$ ,  $(-5, 0)$ , y-int.:  $(0, 8)$ ,  $(0, -8)$
  - $(0, \sqrt{39})$ ,  $(0, -\sqrt{39})$       (c) 16
  - vertices:  $(0, 8)$ ,  $(0, -8)$       (e) ellipse
- ellipse, vertices:  $(0, 10)$ ,  $(0, -10)$ , foci:  $(0, 8)$ ,  $(0, -8)$
  - hyperbola, vertices:  $(5, 0)$ ,  $(-5, 0)$ , foci:  $(5\sqrt{5}, 0)$ ,  $(-5\sqrt{5}, 0)$
  - ellipse, vertices:  $(0, \sqrt{12})$ ,  $(0, -\sqrt{12})$ , foci:  $(0, 2\sqrt{2})$ ,  $(0, -2\sqrt{2})$
  - parabola, opens left, vertex:  $(1, 2)$ , focus:  $(-1, 2)$
  - hyperbola, vertices:  $(5, 0)$ ,  $(-5, 0)$ , foci:  $(13, 0)$ ,  $(-13, 0)$
- $\frac{x^2}{73} + \frac{16y^2}{73} = 0$
- $\frac{101}{4} \text{ m}$
- circle      (b) hyperbola      (c) ellipse
  - parabola      (e) hyperbola
- $y^2 - 12x = 0$
- $y = -\frac{1}{2}x - 2$
- $\frac{(x-6)^2}{36} - \frac{y^2}{\left(\frac{81}{4}\right)} = 1$
- $(8, 20)$ ,  $(2, -10)$