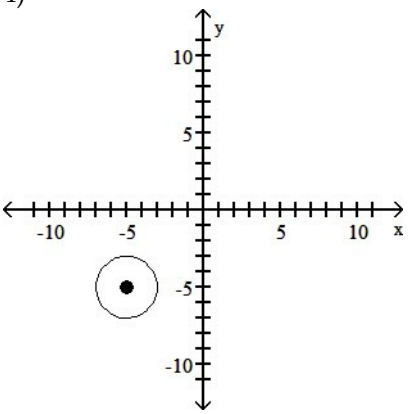
Chapter 10 Review Solutions

1) (h, k) = (-10, 10); r = 10

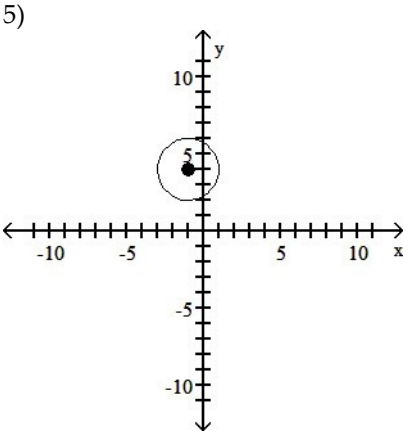
2) (h, k) = (0, -8); r = 9

3) $(x - 5)^2 + (y - 9)^2 = 64$

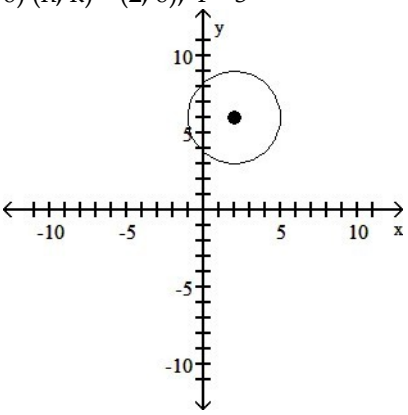
4)



5)



6) (h, k) = (2, 6); r = 3



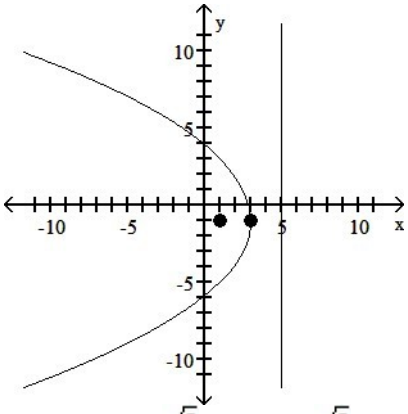
7) $y^2 = 12x$

8) $y^2 = 68x$

9) $(x - 7)^2 = 4(y + 5)$

10) vertex: (-4, 2)
focus: (-4, 4)
directrix: y = 0

11) vertex: (3, -1)
focus: (1, -1)
directrix: x = 5

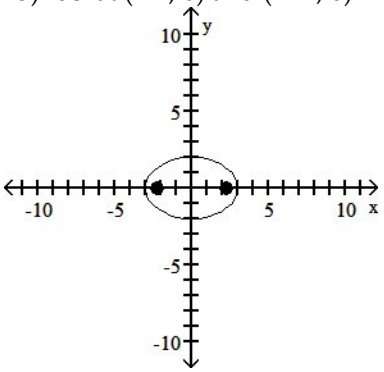


12) foci at $(-6\sqrt{2}, 0)$ and $(6\sqrt{2}, 0)$
vertices at (-9, 0), (9, 0)

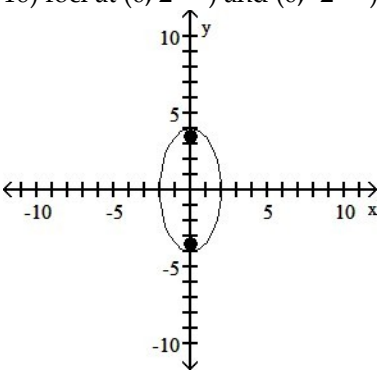
13) foci at $(-\sqrt{17}, 0)$ and $(\sqrt{17}, 0)$
vertices at (-9, 0), (9, 0)

14) $\frac{x^2}{36} + \frac{y^2}{11} = 1$

15) foci at $(\sqrt{5}, 0)$ and $(-\sqrt{5}, 0)$



16) foci at $(0, 2\sqrt{3})$ and $(0, -2\sqrt{3})$



17) center at (-1, 1)

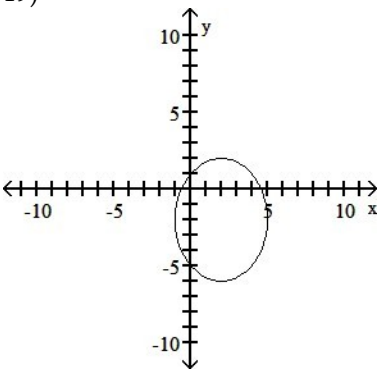
foci at $(-1 + 2\sqrt{5}, 1)$, $(-1 - 2\sqrt{5}, 1)$

vertices at (-7, 1), (5, 1)

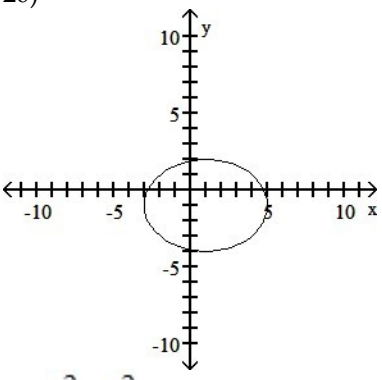
18) $\frac{(x-9)^2}{} + \frac{y^2}{64} = 1$

center: (9, 0); foci: $(9, 3\sqrt{7})$, $(9, -3\sqrt{7})$; vertices:(9, 8), (9, -8)

19)

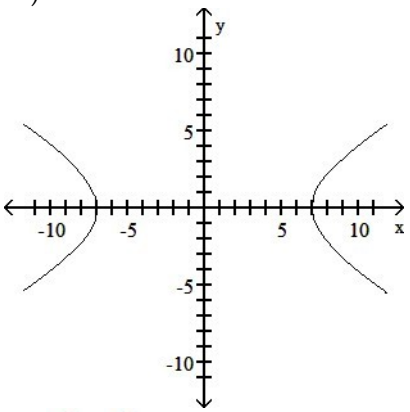


20)

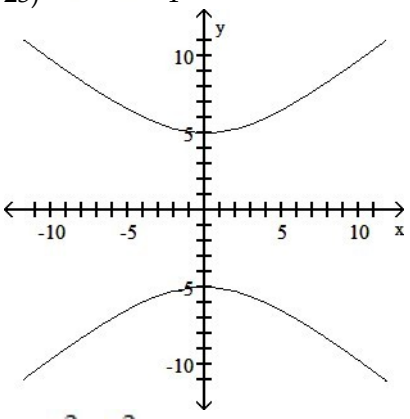


21) $\frac{x^2}{9} - \frac{y^2}{40} = 1$

22) $\frac{x^2}{49} - \frac{y^2}{16} = 1$



23) $\frac{y^2}{25} - \frac{x^2}{36} = 1$



24) $\frac{x^2}{4} - \frac{y^2}{12} = 1$

25) $\frac{(x-5)^2}{} - \frac{(y-8)^2}{35} = 1$

26) center at (2, 1)

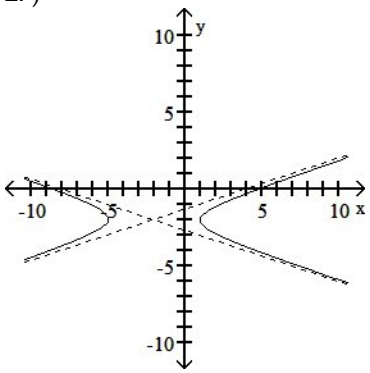
transverse axis is parallel to x-axis

vertices at (-2, 1) and (6, 1)

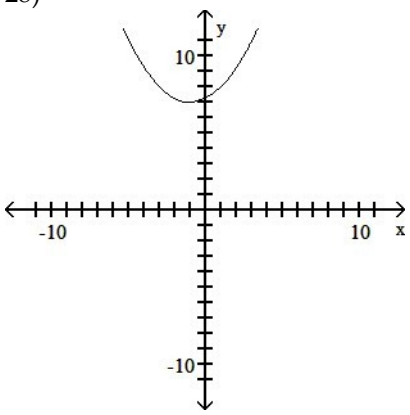
foci at $(2 - \sqrt{17}, 1)$ and $(2 + \sqrt{17}, 1)$

asymptotes of $y - 1 = -\frac{1}{4}(x - 2)$ and $y - 1 = \frac{1}{4}(x - 2)$

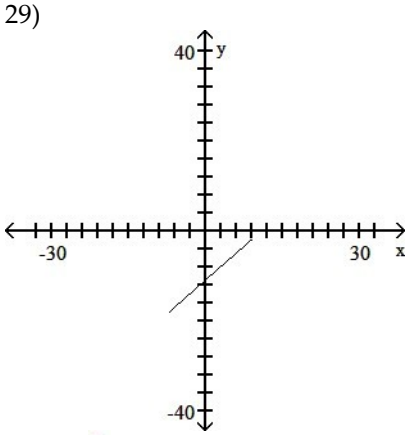
27)



28)



29)



30) $y = \frac{1}{2}x + 5$; for x in $-4 \le x \le 6$

31) $y = \frac{1}{4}x^2 + \frac{1}{2}x + \frac{17}{4}$; for x in $-9 \le x \le 7$