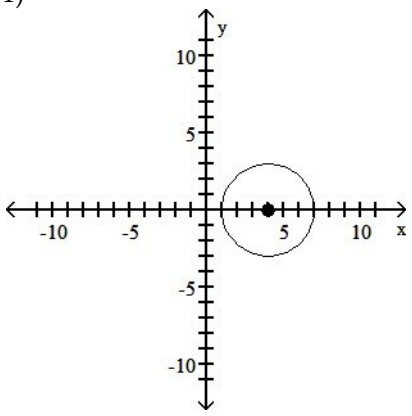
REVIEW CHAPTER 5 AND CHAPTER 10

SOLUTIONS

1)

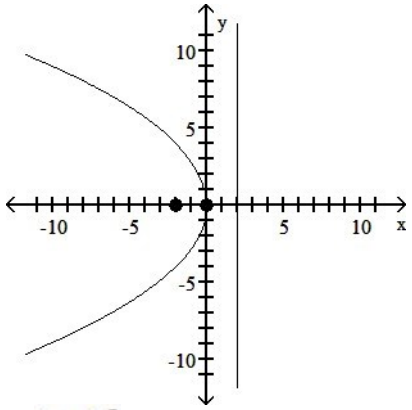


2) (h, k) = (-2, 1); r = 9

3) vertex: (0, 0)

focus: (-2, 0)

directrix: x = 2



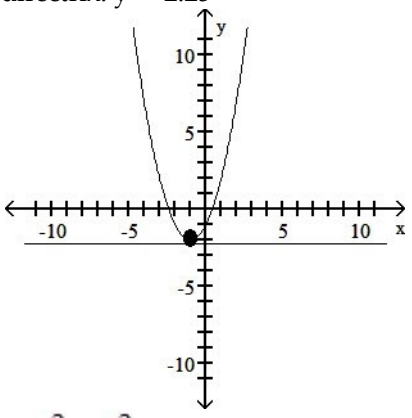
4) $(y + 6)^2 = 4(x - 7)$

5) $(x - 1)^2 = -8(y - 7)$

6) vertex: (-1, -2)

focus: (-1, -1.75)

directrix: y = -2.25



7) $\frac{x^2}{64} + \frac{y^2}{55} = 1$

8) $\frac{(x-3)^2}{4} + \frac{(y+7)^2}{2} = 1$

center: (3, -7); foci: (4.4, -7), (1.6, -7); vertices: (5, -7), (1, -7)

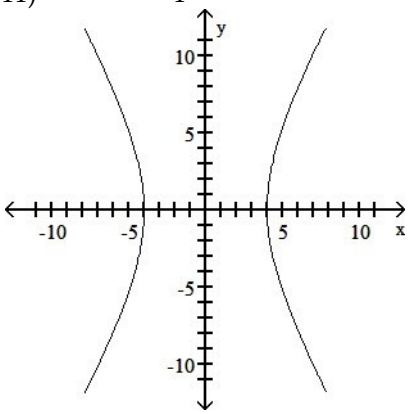
9) center at (-1, 2)

foci at $(-1 + 3\sqrt{3}, 2)$, $(-1 - 3\sqrt{3}, 2)$

vertices at (-7, 2), (5, 2)

10) $\frac{(x-2)^2}{25} + \frac{(y-6)^2}{16} = 1$

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



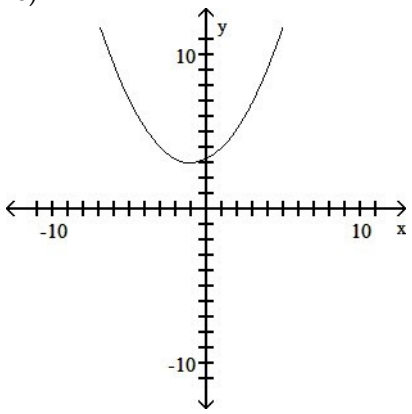
12) center at (-3, -4)
transverse axis is parallel to x-axis
vertices at (-8, -4) and (2, -4)
foci at (-3 - $\sqrt{61}$, -4) and (-3 + $\sqrt{61}$, -4)
asymptotes of $y + 4 = -\frac{6}{5}(x + 3)$ and $y + 4 = \frac{6}{5}(x + 3)$

13) center at (4, -3)
transverse axis is parallel to x-axis
vertices at (-1, -3) and (9, -3)
foci at (4 - $\sqrt{26}$, -3) and (4 + $\sqrt{26}$, -3)
asymptotes of $y + 3 = -\frac{1}{5}(x - 4)$ and $y + 3 = \frac{1}{5}(x - 4)$

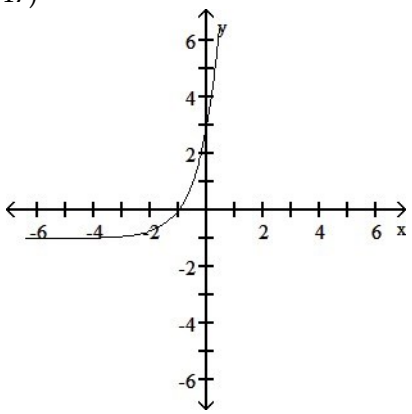
14) $y + 3 = (x + 2)$ and $y + 3 = -(x + 2)$

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

16)

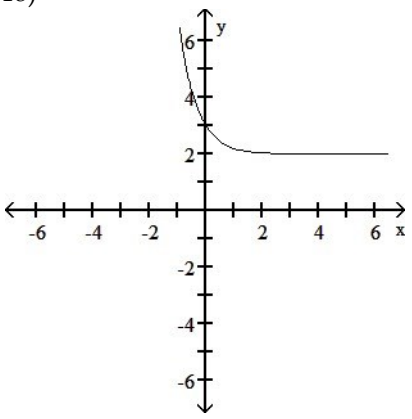


17)



domain of f: (-∞, ∞); range of f: (-∞, 4);
horizontal asymptote: y = 4

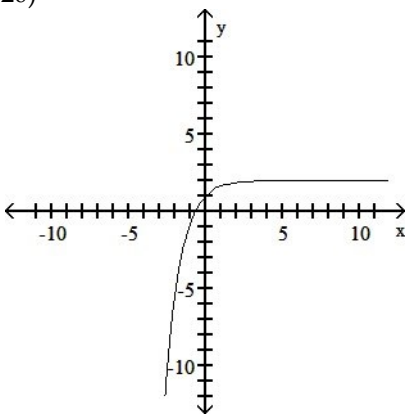
18)



domain of f: (-∞, ∞); range of f:(2, ∞)
horizontal asymptote: y = 2

19) {3}

20)



21) {4}

22) $\left\{-\frac{2}{13}\right\}$

23) $\left\{-\frac{9}{2}\right\}$

24) $\log_7 343 = 3$

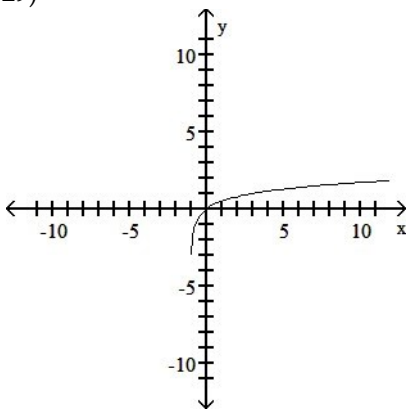
25) $2^{-3} = \frac{1}{8}$

26) 2

27) -3

28) (-4, ∞)

29)



30) {9}

31) {8, -1}

32) 16

33) $3^{\log_2 x} - 7^{\log_2 y}$

34) $\log_b \frac{q^2}{r}$

35) 2.099

36) {128}

37) {-6.00}

38) {-5.31}

39) $24,393.53

40) $1252.91

41) 9.051%

42) 6.93 yr

43) 11.89 hours

44) $\frac{-1}{x-1} + \frac{2}{x-2}$

45) $\frac{-1}{x+2} + \frac{-2}{x+1} + \frac{-3}{(x+1)^2}$

46) 381 rabbits