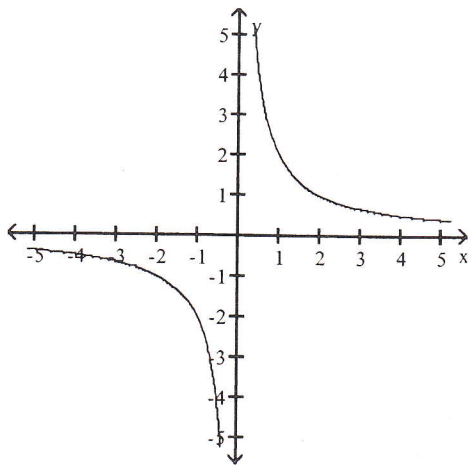
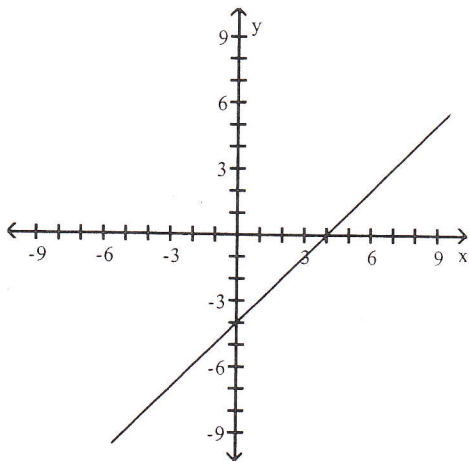


- 1) $(-\infty, 10]$
- 2) $(-\infty, 5) \cup (5, \infty)$
- 3) $[-5, 8) \cup (8, \infty)$
- 4)



Yes; non-removable

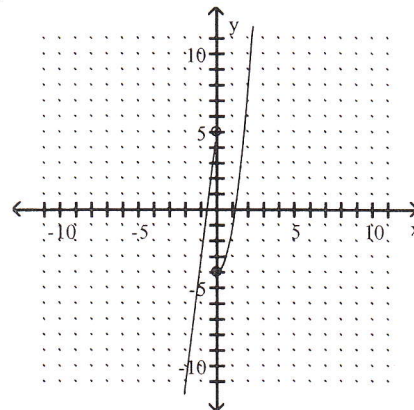
5)



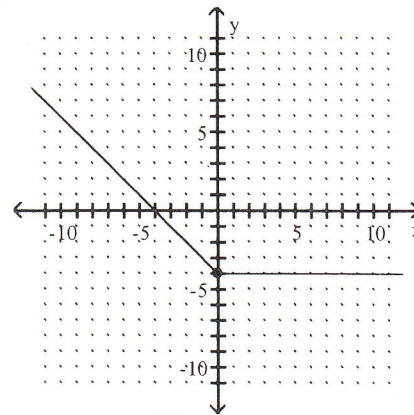
Yes; removable

- 6) Local maximum: approx. 3.66; local minimum: approx. -2.55
- 7) Increasing on $(4, \infty)$; Decreasing on $(-\infty, -4)$; Constant on $(-4, 4)$
- 8) Increasing: $(5, \infty)$; decreasing: $(-\infty, -1)$; constant: $(-1, 5)$
- 9) Bounded above
- 10) Bounded
- 11) Unbounded
- 12) Local maximum: 5; no local minimum
- 13) Local maximum: 9; local minimum: -1.67
- 14) Even
- 15) Neither
- 16) Odd
- 17) None
- 18) $x = 5, x = -5$
- 19) $y = 1$
- 20) None
- 21) $y = 0$

22)



23)



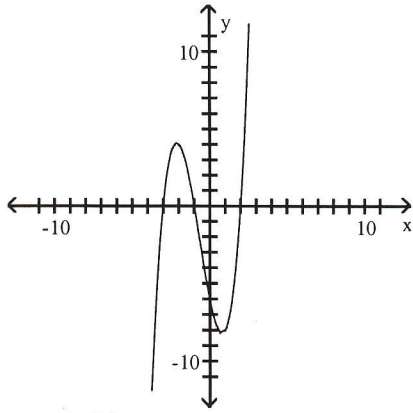
- 24) $f(g(x)) = 2\sqrt{2x - 1}$
- 25) $f(g(x)) = x - 2$
- 26) $f(x) = |x|, g(x) = 6x + 5$
- 27) $f(x) = 10/\sqrt{x}, g(x) = 9x + 7$
- 28) $f^{-1}(x) = \sqrt[3]{x - 7}$
- 29) $f^{-1}(x) = \frac{3x + 8}{8x + 6}$

- 30) No
- 31) Yes

Answer Key

Testname: CHAPTER 2 REVIEW

- 1) ∞, ∞
- 2) $-\infty, \infty$
- 3) -3 and -1
- 4) 0, 4, and -4
- 5) -4, multiplicity 3; 0, multiplicity 2; 8, multiplicity 1
- 6) $f(x) = x^3 - 4x^2 - 11x + 30$
- 7) $f(x) = x^3 + 4x^2 - 6x - 24$
- 8) $\frac{7}{8} \pm \frac{\sqrt{31}}{8}i$
- 9) $f(x) = x^2 + 25$; zeros $\pm 5i$
- 10) $f(x) = x^4 + 11x^2 - 80$
- 11) $(x - 7)(x^2 + x + 2)$
- 12) $x = 1, x = -1$
- 13)



- 14) $y = x + 14$
- 15) $y = 3/4$
- 16) $x = \frac{4}{7}$
- 17) $x = 47$
- 18) $x = \frac{1}{2}$ or $x = 2$
- 19) $(-\infty, -1) \cup (8, 10)$
- 20) $(-6, -5) \cup (-1, 4)$

Answer Key

Testname: CHAPTER 3 REVIEW

- 1) $f(x) = \frac{39}{1 + 2(1/4)^x}$
- 2) $f(x) = \frac{845}{1 + 4(1/3)^x}$
- 3) $x = \frac{1}{3^4}$
- 4) $x = \frac{1}{10^3}$
- 5) $\log_2 9 + \log_2 x$
- 6) $\frac{1}{6} \log_{19} 13 - 2 \log_{19} q - \log_{19} p$
- 7) $5 \log_3 x + 7 \log_3 y - \log_3 8$
- 8) $\ln \left(\sqrt[7]{x} \right)$
- 9) $\log_5 (2x - 1)^4 (6x + 1)^5$
- 10) -0.0053
- 11) 0.6309
- 12) $\frac{\ln x}{\ln 5}$
- 13) 2.029
- 14) 2.153
- 15) $(-8, \infty)$
- 16) $(-\infty, 3) \cup (4, \infty)$
- 17) 2
- 18) 6
- 19) 6.5
- 20) 7.685

Answer Key

Testname: CHAPTER 4 REVIEW

1) $\frac{\pi}{4}$

2) $\frac{19\pi}{6}$

3) $\frac{6\pi}{5}$

4) -460°

5) 117.13°

6) $\sin A = \frac{4}{5}; \cos A = \frac{3}{5}$

7) $\sec A = \frac{17}{8}; \csc A = \frac{17}{15}$

8) $\frac{\sqrt{19}}{10}$

9) $\frac{11}{10}$

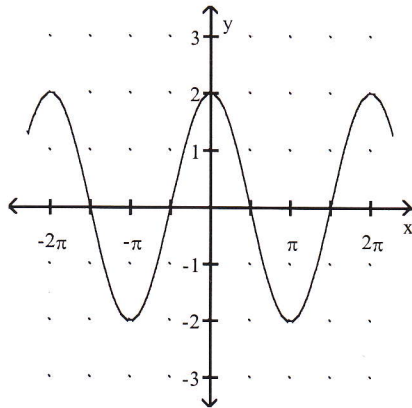
10) $\frac{2\sqrt{3}}{3}$

11) 4

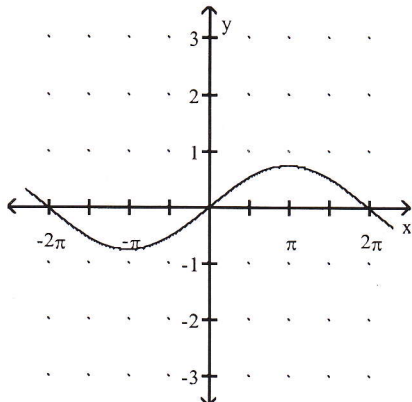
12) 6π

13) Vertical stretch by a factor of 9

14)



15)



Answer Key

Testname: CHAPTER 4 REVIEW

16) $\pm\frac{\pi}{2}, \pm\frac{3\pi}{2}$

17) $0, \pm\pi, \pm2\pi$

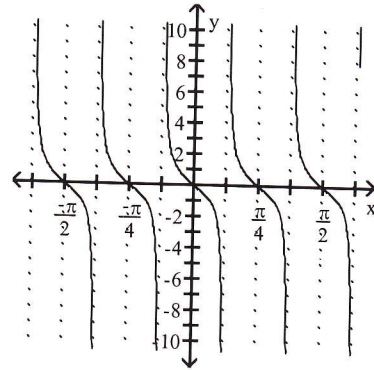
18) $y = 5 \sin 4x$

19) $\frac{\pi}{3}$

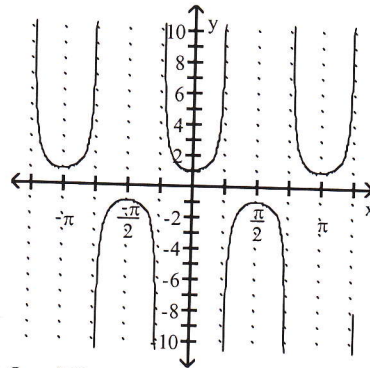
20) $-\frac{\pi}{10}$

21) 5

22)



23)



24) $\theta = 45^\circ$

Answer Key

Testname: CHAPTER 5 REVIEW

1) Identity

2) Identity

$$3) \frac{1 + \csc x}{\sec x} = \cos x \left(1 + \frac{1}{\sin x} \right) = \frac{\cos x (\sin x + 1)}{\sin x} = \frac{\cos x \sin x}{\sin x} + \frac{\cos x}{\sin x} = \cos x + \cot x.$$

4) $2 - \sqrt{3}$

5) $\frac{\sqrt{6} - \sqrt{2}}{4}$

6) $\frac{1}{2} \sqrt{2 - \sqrt{2}}$

7) $x = \frac{3\pi}{4} + 2n\pi$ or $x = \frac{5\pi}{4} + 2n\pi$

8) π

9) $0, \pi, \frac{\pi}{6}, \frac{5\pi}{6}$

10) $\frac{\pi}{4}, \frac{3\pi}{4}, \frac{5\pi}{4}, \frac{7\pi}{4}$

11) $0, \frac{\pi}{3}, \pi, \frac{5\pi}{3}$

12) 0.92°

Answer Key

Testname: CHAPTER 8 REVIEW

1) Vertex: $(7, 3)$; Focus: $(8, 3)$; Directrix: $x = 6$; Focal width: 4

2) $(x - 10)^2 = 4(y + 5)$

3) Vertex: $(-5, 1)$; Focus: $(-5, -1)$; Directrix: $y = 3$

4) $\frac{(x - 4)^2}{25} + \frac{(y + 1)^2}{16} = 1$

5) Center: $(0, 0)$; Vertices: $(0, -\sqrt{7}), (0, \sqrt{7})$; Foci: $(0, -2), (0, 2)$

6) Vertices: $(-2, 5), (-2, -7)$; Foci: $(-2, 9), (-2, -11)$

Answer Key

Testname: CHAPTER 6 REVIEW (PRE-CALC)

1) $(8, 3), \sqrt{73}$

2) $(74, -48)$

3) $\frac{2}{\sqrt{13}}i + \frac{3}{\sqrt{13}}j$

4) $\sqrt{221}, 312.3^\circ$

5) 175 lb $\underline{5^\circ}$

6) 25

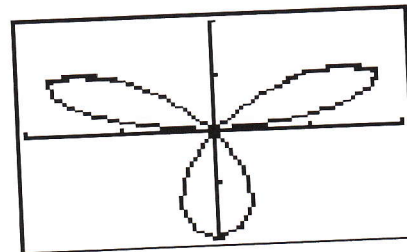
7) 32.5°

8) $\left(\frac{3}{2}, \frac{\sqrt{3}}{2} \right)$

9) $(8\sqrt{3}, 60^\circ), (-8\sqrt{3}, 240^\circ)$

10) $r = 4 \cos \theta$

11)



$[-2, 2]$ by $[-2, 2]$

12) A

Answer Key

Testname: SEQUENCING REVIEW

1) $\sum_{n=0}^{\infty} 9(-3)^n$

2) $\sum_{n=0}^{15} (-5 + n \cdot 10)$

3) 220

4) Diverges

5) Converges; $\frac{216}{5}$

