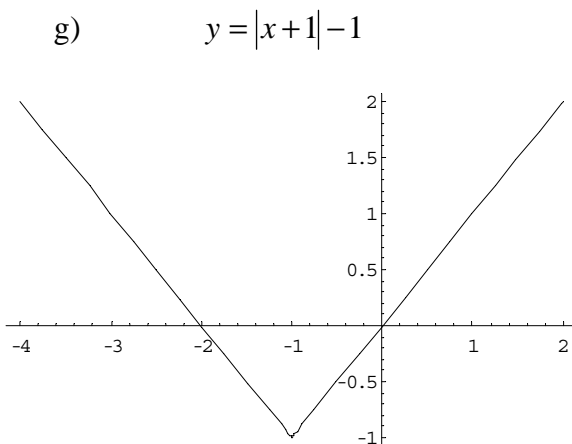
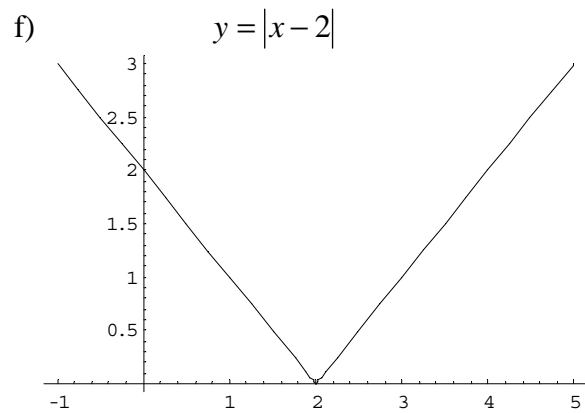
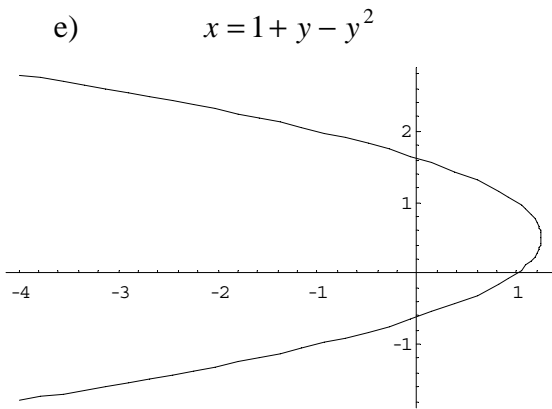
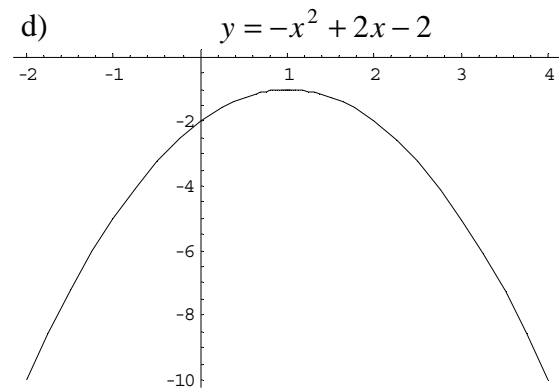
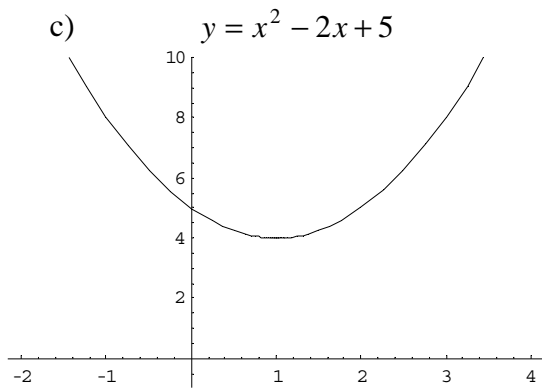
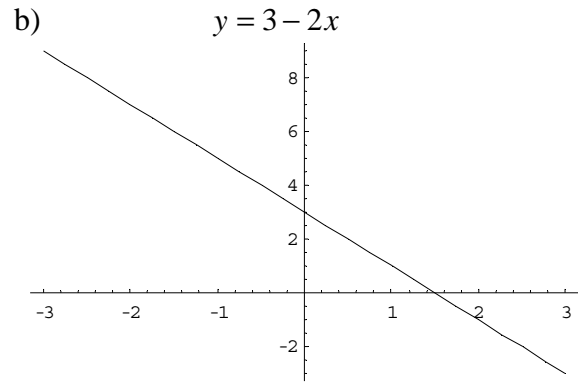
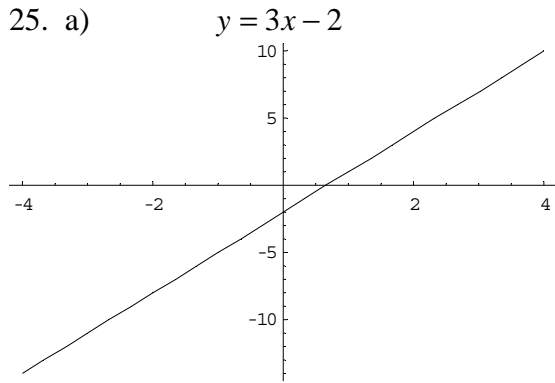


## Review Answer Key – Math Placement Test

1. a) 1.1, 1.123, 1.132, 1.231      b) 1.231, 1.132, 1.123, 1.1
2. 5, 4, 12
3. Area  $\approx 28$ , Circumference  $\approx 19$
4. a) 48      b) 9      c) 35
5. 25,  $-125$ ,  $\frac{1}{25}$ ,  $-\frac{1}{125}$
6. a)  $\frac{22}{15}$       b)  $-\frac{2}{15}$       c)  $\frac{8}{15}$       d)  $\frac{5}{6}$
7. a)  $5\frac{5}{42}$       b)  $2\frac{23}{42}$       c)  $4\frac{13}{14}$       d)  $2\frac{53}{54}$
8. a)  $\frac{21}{20}$       b)  $\frac{4}{5}$
9. 0.2, 2.25, 0.875, 4.75
10. 0.005, 0.05, 0.45, 2.45
11. 1, 3, 8, 15, 40, 200
12. a)  $A = l(l-3) = l^2 - 3l$       b)  $P = 2l + 2(l-3) = 4l - 6$
13. a) width = 10 units      b) width = 60 units
14. a)  $y = 3x + 1$  and  $3x - y = -1$       b)  $y = -\frac{3}{4}x + \frac{5}{2}$  and  $3x + 4y = 10$   
c)  $y = 2x - 5$  and  $2x - y = 5$
15. a)  $15x^7$       b)  $\frac{2}{x^5}$  or  $2x^{-5}$       c)  $x$       d)  $-8x^6y^3$
16. a)  $3x^2y\sqrt{y}$       b)  $2x^2y^3\sqrt[3]{2}$
17. a)  $3x^2 + x + 4$       b)  $-x^2 + 3x - 10$
18. a)  $2x^2 + 5x - 12$       b)  $9x^2 + 12x + 4$       c)  $4x^2 - 12x + 9$   
d)  $9x^2 - 4$
19. a)  $(5x-8)(5x+8)$       b)  $(3x-1)(x+1)$
20. a)  $\frac{xy}{x^2 + y^2}$       b)  $-\frac{2}{x^2 - 4}$       c)  $\frac{2}{x+2}$
21. a)  $x = \frac{1}{4}$       b)  $x = -2 \pm \sqrt{7}$       c)  $x = -2$  or  $x = \frac{1}{2}$
22. a)  $x = \frac{6}{5}$ ,  $y = \frac{2}{5}$       b)  $x = 3$ ,  $y = -2$
23. a)  $x > -3$       b)  $x < 1$       c)  $-6 < x < 1$       d)  $x > 3$  or  $x < -3$
24. a)  $(-1, -3)$  and  $(4, -8)$       b) No points of intersection.



26.  $f(-1)=2, f(0)=1, f(1)=4/3$

27.  $f\left(\frac{1}{2}\right)=-4, f(1)=0$  and  $f(4)=\frac{1}{8}$

28. a)  $(2x+3)^2$       b)  $2x^2+3$       c)  $4x+9$       d)  $2-x^2$   
 e)  $\sqrt{2-x^4}$

29. a)  $x \neq \pm \frac{3}{2}$       b)  $-\sqrt{2} \leq x \leq \sqrt{2}$       c)  $x > -1$       d) all real  $x$

30. a) 3      b) 4      c) 2      d) 12      e) 25      f)  $\frac{1}{\sqrt{3}}$

31. a) 1.08      b) -0.29      c) 1.28      d) -1.30

32. a)  $\log_3 7$       b)  $x = \ln 3$       c)  $x = \frac{e^{10}-1}{2}$

33. a)  $b = 2$       b)  $b = 3$

34.  $\cos \theta = \frac{x}{2}, \sin \theta = \frac{\sqrt{4-x^2}}{2}, \tan \theta = \frac{\sqrt{4-x^2}}{x}, \cot \theta = \frac{x}{\sqrt{4-x^2}}, \sec \theta = \frac{2}{x},$

$$\csc \theta = \frac{2}{\sqrt{4-x^2}}$$

35.  $\cos 0 = 1$  and  $\sin 0 = 0, \cos \frac{\pi}{6} = \frac{\sqrt{3}}{2}$  and  $\sin \frac{\pi}{6} = \frac{1}{2}, \cos \frac{\pi}{4} = \frac{1}{\sqrt{2}}$  and  $\sin \frac{\pi}{4} = \frac{1}{\sqrt{2}},$

$$\cos \frac{\pi}{3} = \frac{1}{2} \text{ and } \sin \frac{\pi}{3} = \frac{\sqrt{3}}{2}, \cos \frac{\pi}{2} = 0 \text{ and } \sin \frac{\pi}{2} = 1$$

36. a) 1      b)  $\cos(4x)$       c)  $\frac{\sin(4x)}{2}$       d) 1

e)  $\sin^2 x$       f)  $\sec^2 x$       g)  $\cot^2 x$

37. a)  $x = \frac{\pi}{2}$       b)  $x = \frac{\pi}{6}, x = \frac{5\pi}{6}, x = \frac{\pi}{2}$  and  $x = \frac{3\pi}{2}$