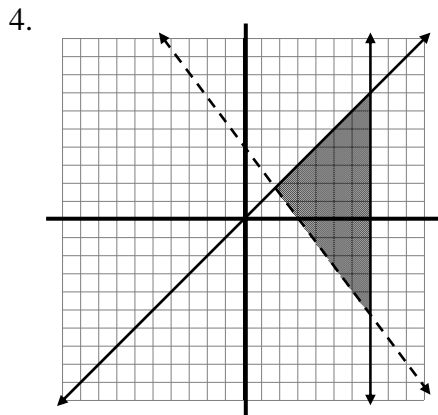
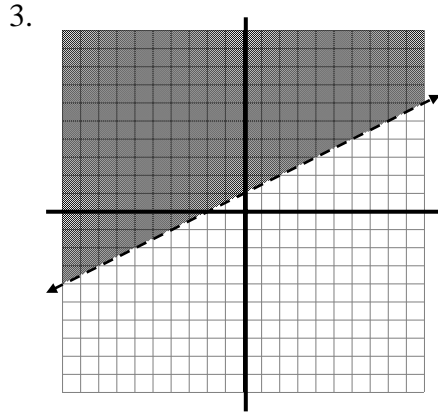


Algebra 2 ~ Second Semester Review Key

Non-Calculator

1. $\begin{bmatrix} 6 & -1 & 4 \\ -1 & 1 & -1 \end{bmatrix}$

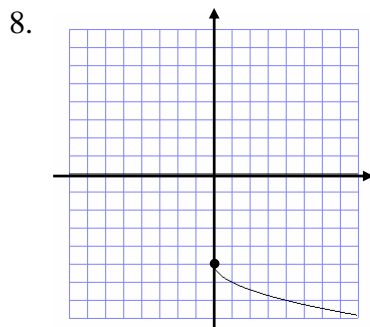
2. $\begin{bmatrix} 0 & 2 & 19 \\ 8 & 22 & -19 \end{bmatrix}$



5. $y \leq \frac{5}{4}x - 5$
 $y < -x$

6. b

7. a) D: $x \geq 0$ b) D: \square
 R: $y \geq 3$ R: \square



9. (a) $\frac{5\sqrt{2}}{2}$
 (b) 8i

10. $4 - 3i$

11. $\frac{55}{34} + \frac{1}{34}i$

12. $-13 + 4i$

13. (a) as $x \rightarrow +\infty, f(x) \rightarrow -\infty$
 as $x \rightarrow -\infty, f(x) \rightarrow -\infty$
 (b) as $x \rightarrow +\infty, f(x) \rightarrow +\infty$
 as $x \rightarrow -\infty, f(x) \rightarrow -\infty$

14. (a) 300° (b) 540° (c) -135°

15. (a) $\frac{\pi}{4}$ (b) $-\frac{3\pi}{2}$ (c) $-\frac{\pi}{3}$

16. (a) QII; 55° (b) QIV; 60°
 (c) QIII; 45° (d) QI; 45°

17. (a) QIII; $\frac{\pi}{6}$ (b) QII; $\frac{2\pi}{5}$
 (c) QI; $\frac{\pi}{4}$ (d) QIV; $\frac{\pi}{12}$

Calculator

1. (.774, 5.130)

2. (-3.03, -9.908) and (3.302, 9.908)

3. (-4, -2)

4. $(-1, -\frac{1}{4})$

5. no solution

6. (-3.00, -2.78, -1.74)

7. $3x^{\frac{4}{3}}\sqrt[3]{2}$ or $3x^3\sqrt[3]{2x}$

8. $x = 5$

9. $x = -4$

10. d

11. $h^{\frac{2}{3}}$

12. $x^2 + 7x + 7$

13. $2x^3 + 2x + 5$

14. $x^3 - 4x^2 - 2x + 5$

15. $6x^2 + 9x + 4$

16. d

17. $x = \{4, 1, -1\}$

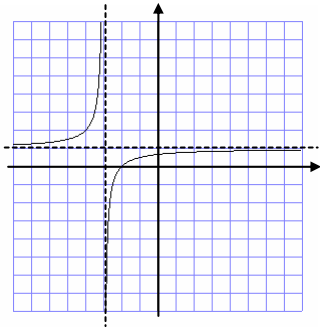
18. $y = -(x + 3)(x - 1)(x - 3)$

19. $y = \frac{1}{4}(x - 1)(x - 4)(x - 6)$

20. no

21. yes; $xy = 10$ or $y = \frac{10}{x}$

22.



23. $y = \frac{1}{x+1} - 2$

24. no solution

25. $x = 13$ and 8

26. 240 choices

27. 2730

28. 210

29. 120

30. 18,618,600.

31. $\frac{7}{13}$

32. $\frac{4}{13}$

33. $\frac{3}{52}$

34. $\frac{7}{16}$

35. $\frac{1}{221}$

36. $\frac{10}{17}$

37. $\frac{13}{51}$

38. $\frac{4}{51}$

39. (a) $\frac{28}{121}$ (b) $\frac{27}{121}$ (c) $\frac{11}{32}$ (d) $\frac{7}{27}$

40. $\angle B = 62^\circ$; $a = 1.6$; $c = 3.4$

41. $a = 106.1$; $\angle B = 15.3^\circ$; $\angle A = 74.7^\circ$

42. $\angle A = 34^\circ$; $a = 10.2$; $b = 15.1$

43. $c = 3.6$; $\angle A = 33.7^\circ$; $\angle B = 56.3^\circ$

44. 2066.7 feet

45. 5.5°

46. $\sin \theta = \frac{4}{5}$; $\cos \theta = \frac{3}{5}$; $\tan \theta = \frac{4}{3}$

47. $\sin \theta = -\frac{12}{13}$; $\cos \theta = -\frac{5}{13}$; $\tan \theta = \frac{12}{5}$