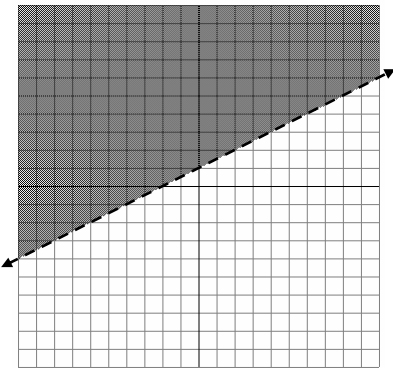


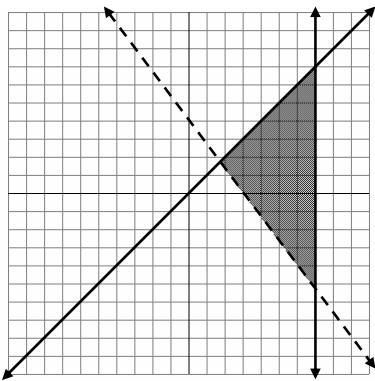
Second Semester Exam Review Key

Non-Calculator

1.



2.

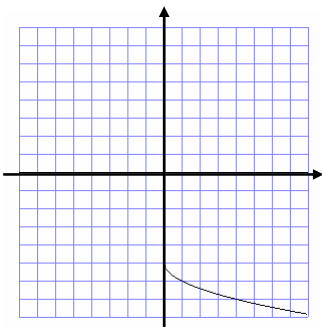


3. $y \leq \frac{5}{4}x - 5$
 $y < x$

4. **b**

5. Domain: $x \geq 0$
 Range: $y \geq 3$

6.



7. (a) $\frac{5\sqrt{2}}{2}$

(b) $8i$

8. $4 - 3i$

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

10. $-13 + 4i$

11. (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 $x \rightarrow -\infty, f(x) \rightarrow -\infty$

12. (a) 300° (b) 540° (c) -135°

13. (a) $\frac{\pi}{4}$ (b) $-\frac{3\pi}{2}$ (c) $\frac{5\pi}{4}$ (d) $-\frac{\pi}{3}$

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

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

Calculator

1. $(.774, 5.130)$

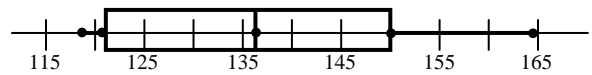
2. $(-.303, -.908)$ and $(3.302, 9.908)$

3. $(-4, -2)$

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

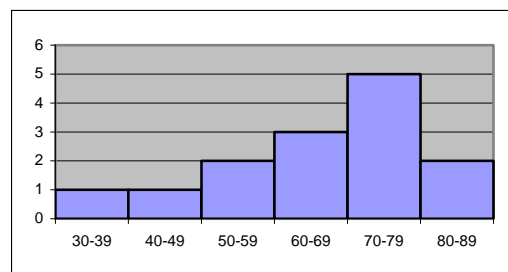
5. no solution

6. (a) 136.9 (b) 137.03 (c) 118.4
 (d) 164.3 (e) 120.6 (f) 150
 (g) 45.9 (h) 29.4 (i) none



7.

Interval	Tally	Frequency
30-39	/	1
40-49	/	1
50-59	//	2
60-69	///	3
70-79	////	5
80-89	//	2



8. $3x^{\frac{4}{3}}\sqrt[3]{2}$ or $3x^{\frac{4}{3}}\sqrt[3]{2x}$

9. $x = 5$

10. $x = -4$

11. d

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

13. $x^2 + 7x + 7$

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

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

16. $-3x^2 + 2x + 3 + \frac{6}{x^2 + 3x - 1}$

17. d

18. $x = 4, 1, -1$

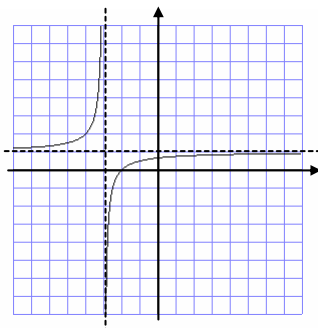
19. $y = -(x + 3)(x - 1)(x - 3)$

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

21. no

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

23.



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

25. no solution

26. $x = 13$ and 8

27. 240 choices

28. 2730

29. 210

30. 120

31. 18,618,600.

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

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

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

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

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

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

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

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

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

41. $0.015 = 1.5\%$

42. 0.376

43. 1.5

44. 0.6554

45. 0.3518

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

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

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

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

50. 2066.7 feet

51. 5.5°

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

53. $\sin \theta = \frac{12}{\sqrt{153}}$; $\cos \theta = -\frac{3}{\sqrt{153}}$;

$\tan \theta = -4$

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

55. $\sin \theta = -\frac{24}{25}$; $\cos \theta = \frac{7}{25}$; $\tan \theta = -\frac{24}{7}$