The Beginner's Guide to Honors Algebra II/Trig – Answers

1. a-d, h Answers will vary. a. $\sqrt{2}$ b. $\frac{3}{4}$ c. $\sqrt{-5}$ d. -53
   e. π f. 0 g. impossible h. $\sqrt{27}$

2. a. real, rational, integer, even, negative b. real, irrational, positive
   c. real, rational, integer, digit, counting, even, positive d. imaginary

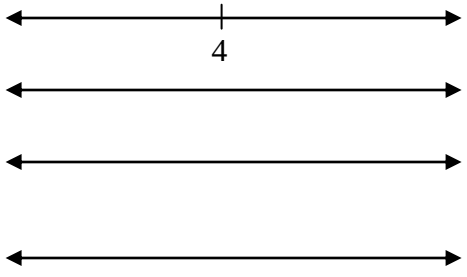
3. a. quadratic binomial b. not a polynomial because of absolute value symbol
   c. cubic trinomial d. cubic monomial

4. a. -3 b. 143 c. 53 d. $12-5x-2x^2$

5. a. 9; 7 b. -8; 32 c. 18; 26

6. a. $\left\{12\frac{1}{3}\right\}$ b. ϕ c. $\left\{-\frac{5}{3}, 4\right\}$ d. $\{-5\}$

7. a. $x \geq 4$
   b. $x > -6$
   c. $4 \leq x < 6.5$
   d. $x \geq -4, \quad x \leq -10$



8 – 17: Ranges are given.

8. {Real numbers} 9. {Real numbers} 10. $\{y \geq 0\}$ 11. $\{y \leq 0\}$

12. $\{y < 0\}$ 13. $\left\{\frac{3}{4} \leq y \leq 6\right\}$ 14. $\{0 \leq y \leq 5\}$ 15. $\{y \geq -5, \text{int}egers\}$

16. $\{y \geq -4\}$ 17. $\{y = 2, 3, 6, 11, 18\}$

18. D: $\{-5 < x \leq 3\}$ R: $\{-4 < y \leq 6\}$ 19. D: $\{-4 < x \leq 1\}$ R: $\{-3 \leq y < 5\}$

20. D: $\{-7 \le x < 4\}$ R: $\{-3 \le y < 5\}$

21. D: $\{-6 < x < 6\}$ R: $\{-2 < y < 5\}$

22-25 Answers will vary.

26. Function: $y = 4 + \frac{2}{3}x$, R: $\{2 \le y \le 8\}$

27. Function: $y = 3 - x^2$, R: $\{y \le 3\}$

28. Not a function: $y^2 = 3 - x$

29. Function, R: $\{-2 < y \le 3\}$

30. Not a function: $|y| = 4 - 2x$

31. Function, R: $\{y > 0\}$

32. not

33. function

34. function

35. not

36. function

37. function

38-41 – Answers will vary

42. a. y = 11 b. y = 3 c. y = - 5

43- 54. On your own

55. a. point–slope form b. $(6, -2)$ c. $m = -\frac{3}{2}$ d. graph

e. $y = -\frac{3}{2} + 7$ g. $3x + 2y = 14$

56. $y = \frac{8}{3}x - 14$

57. $y = \frac{1}{3}x + 5$

58. $y = -4x - 4$

59. $y = \frac{5}{3}x - 5$

60. $x = -2$

61. $y = 4$

62. $y = \frac{1}{3}x - \frac{5}{3}$

63. a. x = amount of ice cream in scoops, y = cost in cents; $(1, 89), (8, 607)$; slope = 74; $y = 74x + 15$

b. 4 scoops: \$3.11; 12 scoops: \$9.03

c. 30 scoops

d. \$0.15 = cost of one cone

e. \$0.74 = cost per scoop of ice cream, slope