Name: _____ **Class:** _____ **Date:** _____ **ID: A**

Algebra Review

Solve the equation.

____ 1. $3(b+3)-4(-2+b)=19$

a. $b = 2$
b. $b = 36$
c. $b = -2$
d. $b = -36$

____ 2. $3^{4x}=3^{40}$

a. $x=10$
b. $x=-10$
c. $x=12$
d. $x=43$

____ 3. $100^{5x-4}=10^{-x-1}$

a. $x=-\frac{11}{7}$
b. $x=\frac{7}{11}$
c. $x=-2$
d. $x=\frac{1}{2}$

Solve the equation. Determine whether the equation has *one solution*, *no solution*, or *infinitely many solutions*.

____ 4. $4c-20=-20+4c$

a. $c=-4$; one solution
b. infinitely many solutions
c. no solution
d. $c=0$; one solution

____ 5. $8(5z-7)=-4(-10z+14)$

a. infinitely many solutions
b. no solution
c. $z = 0$; one solution
d. $z = 1$; one solution

Solve the formula for the indicated variable.

6. Area of a circle: $A=\pi r^2$; Solve for r.

Solve the inequality. Graph the solution, if possible.

7. $3|2x-4|+4 \geq 16$

Find the value of *x* so that the function has the given value.

____ 8. $q(x)=\frac{4}{5}x-9; \quad q(x)=3$

a. –30
b. 15
c. 30
d. –15

____ 9. Which questions have an answer of –5?

a. What is the slope of $y=-5x+4$?
b. What is the *y*-intercept of $2x+4y=-20$?
c. What is the *y*-intercept of $y=-5x-4$?
d. What is the *x*-intercept of $y=3x+15$?
e. What is the *x*-intercept of $7x-5y=7$?
f. What is the slope of $15x+3y=-9$?

____ 10. Consider the parent function $f(x) = |x|$. Which transformations occurred to create $g(x) = -5|x - 3| - 6$?

a. horizontal translation 3 units right
b. reflection in the x-axis
c. vertical stretch by a factor of 5
d. horizontal stretch by a factor of 5
e. vertical translation 6 units down
f. vertical translation 6 units up
g. reflection in the y-axis
h. horizontal translation 3 units left

Does the table represent a *linear* or *nonlinear* function? Explain.

11.

x	–3	1	5	9
y	20	36	44	60

Evaluate the function when *x* = –3, 0, and 1.

12. $h(x) = 2.5x + 7$

Find the slope and *y*-intercept of the graph of the linear equation.

13. $y = 6x - 8$

14. $y - 1 = -\frac{1}{4}x$

15. $5x - y = -5$

16. The function $c = 180n + 250$ represents the total lodging cost c (in dollars) for a stay at a vacation destination of n nights.

a. Identify the independent and dependent variables.

b. You have budgeted $900 for lodging for your vacation. Find the domain and range of the function.

Write an equation of the line with the given slope and *y*-intercept.

____ 17. slope: $-\frac{1}{3}$

y-intercept: –1

a. $y = -x - \frac{1}{3}$
b. $y = -\frac{1}{3}x - 1$
c. $y = -x + \frac{1}{3}$
d. $y = -\frac{1}{3}m + 1$

Write an equation of the line that passes through the given points.

____ 18. (–5, –1), (0, –1)

a. $y = -5$

b. $y = \frac{2}{5}x + 1$

c. $y = -1$

d. $y = \frac{5}{2}x + \frac{23}{2}$

Write an equation in point-slope form of the line that passes through the given point and has the given slope.

____ 19. (16, –4); $m = -\frac{3}{4}$

a. $y - 4 = -\frac{3}{4}(x + 16)$

b. $y = -\frac{3}{4}x - 8$

c. $y + 4 = -\frac{3}{4}(x - 16)$

d. $y = -\frac{3}{4}x$

____ 20. Write an equation of the line that passes through the given point and is parallel to the given line.

(4, 5); $y = -\frac{3}{2}x + 3$

a. $y = -\frac{3}{2}x - 1$

b. $y = \frac{3}{2}x + 3$

c. $y = -\frac{3}{2}x + 11$

d. $y = \frac{3}{2}x + 11$

____ 21. Write an equation of the line that passes through the given point and is perpendicular to the given line.

(–6, –4); $y = \frac{1}{3}x + 1$

a. $y = -\frac{1}{3}x + 1$

b. $y = \frac{1}{3}x - 22$

c. $y = -3x + 14$

d. $y = -3x - 22$

Write the next three terms of the arithmetic sequence.

____ 22. 19, 11, 3, –5, ...

a. –13, –21, –29

b. –12, –19, –26

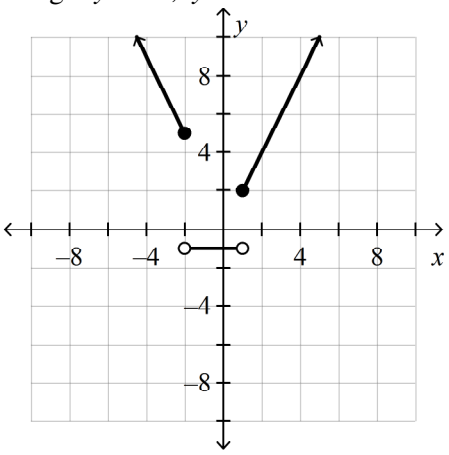
c. 3, 11, 19

d. –13, –20, –26

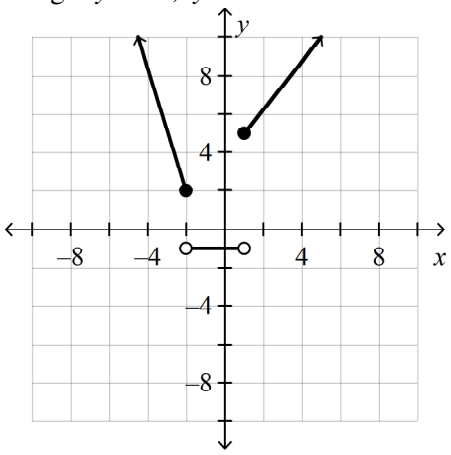
Graph the function. Describe the domain and range.

____ 23. $y = \begin{cases} -2x + 1, & \text{if } x \le -2 \\ 1, & \text{if } -2 < x < 1 \\ 2x, & \text{if } x \ge 1 \end{cases}$

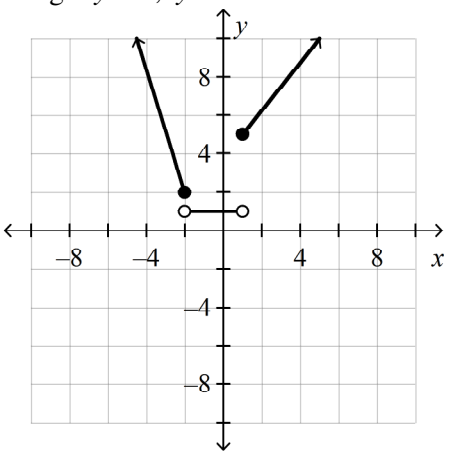
a. Domain: all real numbers
Range: $y = -1,\ y \ge 2$



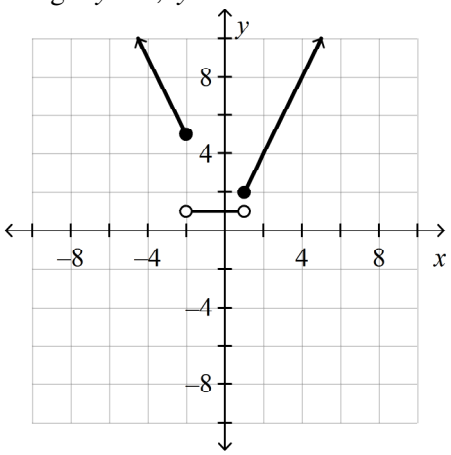
c. Domain: all real numbers
Range: $y = -1,\ y \ge 2$



b. Domain: all real numbers
Range: $y = 1,\ y \ge 2$



d. Domain: all real numbers
Range: $y = 1,\ y \ge 2$



Solve the system of linear equations. Check your solution.

____ 24. $y = -x + 30$

$y = x + 6$

a. (12, 18)
b. (13, 17)
c. (10, 16)
d. (11, 19)

____ 25. $-2x + 2y = 2$

$-7x - y = -9$

a. (1, 9)
b. (2, 3)
c. (0, 9)
d. (1, 2)

____ 26. $x - 4y = -2$

$3x - 14y = -4$

a. $(4, 2)$
b. $(-6, -1)$
c. $(-6, -26)$
d. $(4, -2)$

____ 27. $6x - 2y = 18$

$18x - 6y = 24$

a. infinitely many solutions
b. (1, –6)
c. no solution
d. (3, 0)

____ 28. $-3x - 3y = -30$

$x + y = 10$

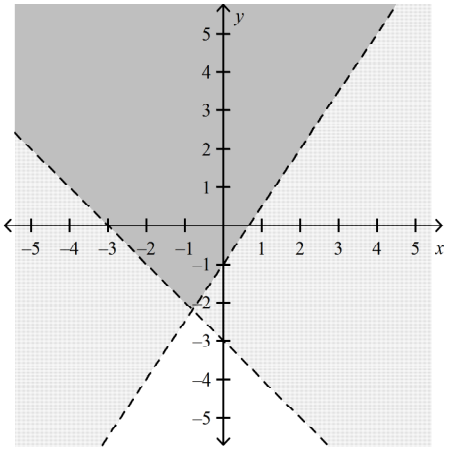
a. no solution
b. (–3, 13)
c. (6, 4)
d. infinitely many solutions

Graph the system of linear inequalities.

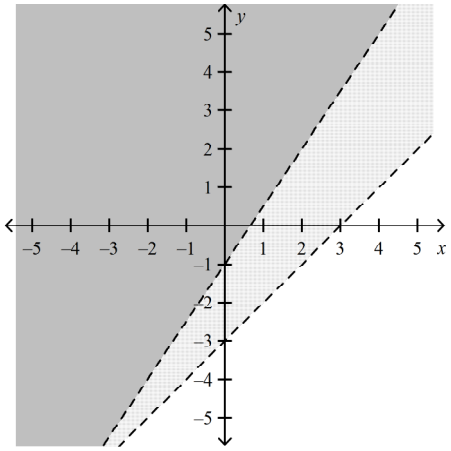
____ 29. $x + y > -3$

$y > \frac{3}{2}x - 1$

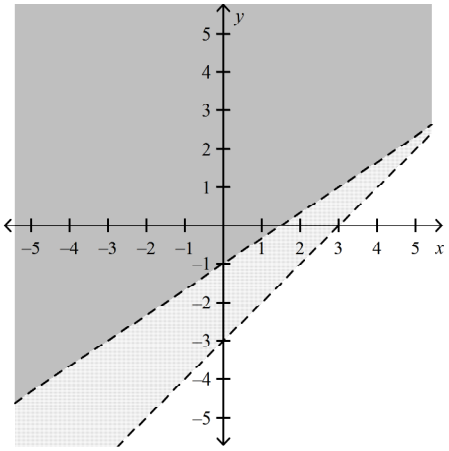
a.



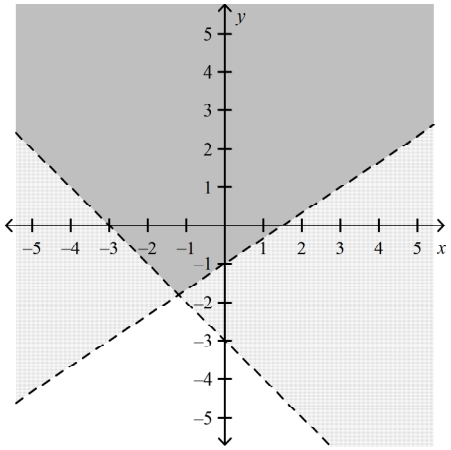
c.



b.

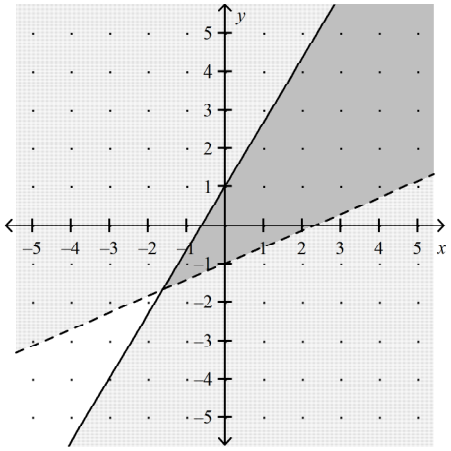


d.



Write a system of linear inequalities represented by the graph.

____ 30.



a. $y \le \frac{5}{3}x + 1$
$y > \frac{3}{7}x - 1$

b. $y \ge \frac{5}{3}x + 1$
$y < \frac{3}{7}x - 1$

c. $y \le \frac{3}{5}x + 1$
$y > \frac{3}{7}x - 1$

d. $y \ge \frac{3}{5}x + 1$
$y < \frac{3}{7}x - 1$

Simplify the expression. Write your answer using only positive exponents.

____ 31. q^0

a. 1
b. $\frac{1}{q}$
c. −1
d. 0

____ 32. $\frac{8^{-2}r^{-8}}{s^{-10}}$

a. $-\frac{s^{10}}{64r^8}$
b. $\frac{s^{10}}{64r^8}$
c. $\frac{64r^8}{s^{10}}$
d. $-\frac{64r^8}{s^{10}}$

____ 33. $\left(\frac{9n^2}{8}\right)^3$

a. $\frac{9n^6}{8}$

c. $\frac{729n^6}{8}$

b. $\frac{729n^6}{512}$

d. $\frac{729n^5}{512}$

Determine whether the table represents a *linear* or an *exponential* function. Explain.

34.

x	–1	0	1	2
y	0.25	0.75	2.25	6.75

Find the product.

____ 35. $(9+4s)(4+s)$

a. $4s^2+36$

c. $4s^2+25s-36$

b. $4s^2+25s+36$

d. $4s^2+9s+36$

____ 36. $(x-5y)^2$

a. $x^2-10xy+25y^2$

c. x^2-25y^2

b. x^2+25y^2

d. $x^2+10xy+25y^2$

Solve the equation.

____ 37. $(2-3d)(4-3d)=0$

a. $d=\frac{3}{2}, d=\frac{3}{4}$

c. $d=\frac{2}{3}, d=\frac{4}{3}$

b. $d=-\frac{2}{3}, d=-\frac{4}{3}$

d. $d=-2, d=-4$

____ 38. $16m^2+8m=0$

a. $m=0, m=-2$

c. $m=0, m=2$

b. $m=0, m=-\frac{1}{2}$

d. $m=0, m=\frac{1}{2}$

____ 39. $n^2+16=8n$

a. $n=-4, n=4$

c. $n=4$

b. $n=0, n=4$

d. $n=-4$

____ 40. $z^2-49=0$

a. $z=-7, z=7$

c. $z=7$

b. $z=-7$

d. $z=0, z=7$

____ 41. $x^2 + 6x - 27 = 0$

a. no real solutions
b. $x = 9$
c. $x = -3, x = 9$
d. $x = 3, x = -9$

____ 42. $25(x + 6)^2 = 4$

a. $x = -\frac{32}{5}, x = -\frac{28}{5}$
b. $x = -\frac{33}{5}, x = -\frac{28}{5}$
c. $x = -\frac{32}{5}, x = -\frac{29}{5}$
d. $x = -\frac{33}{5}, x = -\frac{29}{5}$

Factor the polynomial completely.

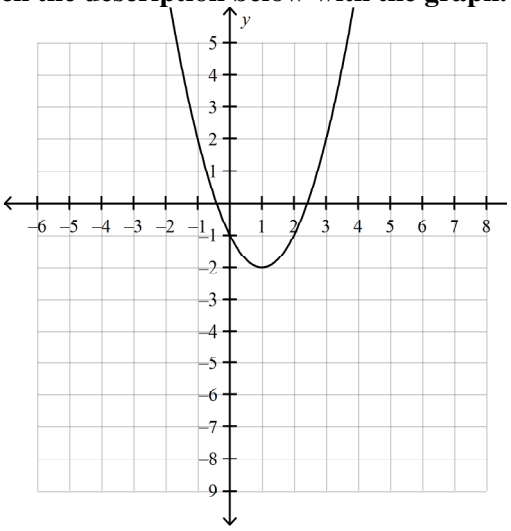
____ 43. $4x^2 - 13x + 3$

a. $(x - 3)(4x - 1)$
b. $4(x - 3)(x - 1)$
c. $4(x + 3)(x + 1)$
d. $(x + 3)(4x + 1)$

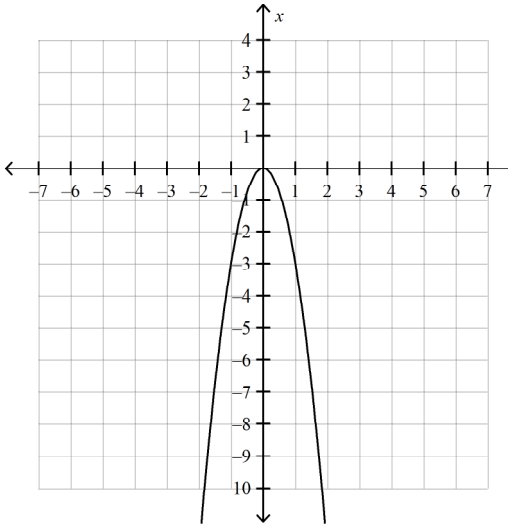
Name: _____ **ID: A**

Match the description below with the graph.

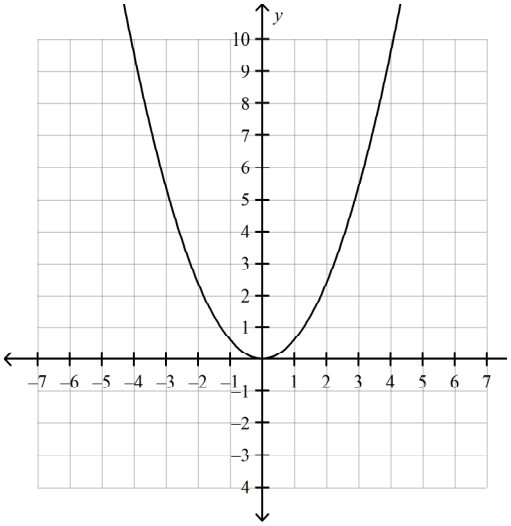
a.



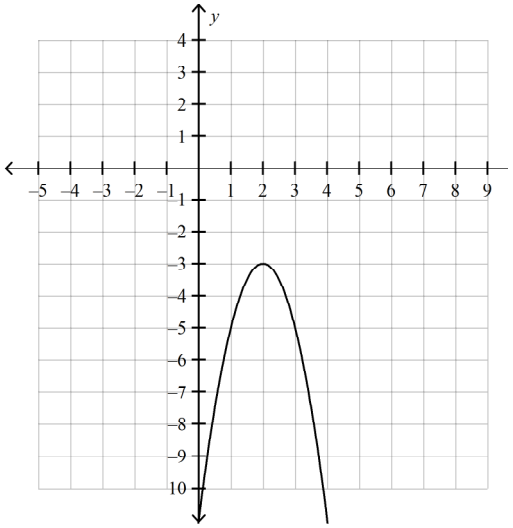
d.



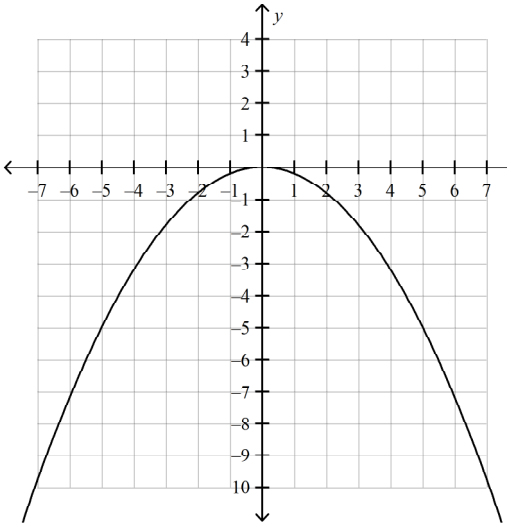
b.



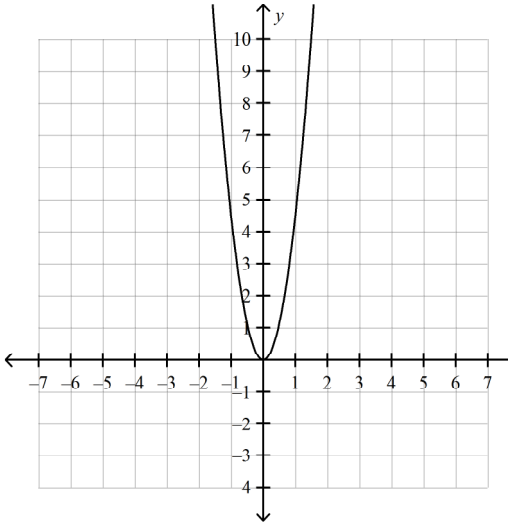
e.



c.



f.



____ 44. $h(x) = -3x^2$

____ 45. vertex: (1,–2); axis of symmetry: $x = 1$
domain: all real numbers; range: $y \geq -2$

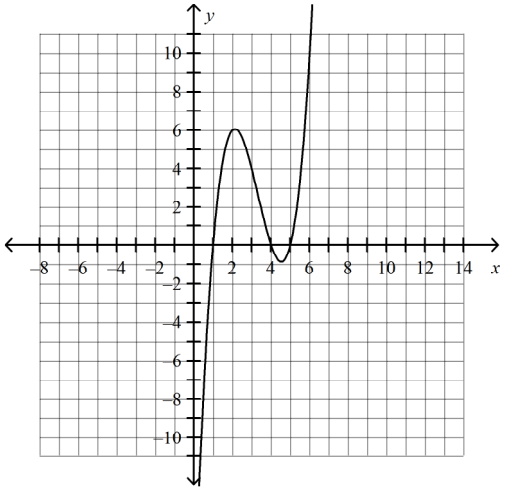
____ 46. The graph is a vertical stretch by a factor of 5 of the graph of $f(x) = x^2$.

____ 47. $g(x) = \frac{3}{5}x^2$

____ 48. vertex: (2,–3); axis of symmetry: $x = 2$
domain: all real numbers; range $y \leq -3$

____ 49. The graph is a vertical shrink by a factor of $\frac{1}{5}$ of the graph of $f(x) = x^2$ and a reflection in the x-axis.

____ 50. The graph of $f(x) = (x - 5)(x^2 - 5x + 4)$ is shown. Find the zeros of f.



a. –5, –5, 4
b. –5, –4, –1
c. 1, 4, 5
d. –4, 5, 5

____ 51. Determine the minimum value of the quadratic function.

$f(x) = x^2 + 2x + 7$

a. 2
b. 1
c. 6
d. 7

Use the discriminant to determine the number of real solutions of the equation.

52. $x^2 = -6x - 10$

Solve the equation using any solution method. Explain your choice of method.

53. $4x^2 + x - 7 = 0$

Describe the domain of the function.

____ 54. $y = \frac{1}{10}\sqrt{-x-21}$

a. $x \geq \frac{1}{10}$
c. $x \geq -21$
b. $x \leq -21$
d. $x \geq 21$

Solve the equation. Check your solution.

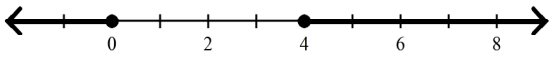
____ 55. $-11 = 13 - 3\sqrt{-x-6}$

a. $x = 71$
c. $x = -14$
b. $x = -70$
d. $x = -58$

Algebra Review
Answer Section

1. ANS: C PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 1.2
   NAT: HSA-REI.B.3
   KEY: equation | linear equations in one variable | solution of an equation | solving multi-step linear equations NOT: Example 3
2. ANS: A PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 6.5
   NAT: HSA-CED.A.1 | HSA-REI.A.1
   KEY: exponential equation | solving exponential equations with the same base
   NOT: Example 1
3. ANS: B PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 6.5
   NAT: HSA-CED.A.1 | HSA-REI.A.1
   KEY: exponential equation | solving exponential equations with unlike bases
   NOT: Example 2
4. ANS: B PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 1.3
   NAT: HSA-REI.B.3
   KEY: solving linear equations with variables on both sides | infinitely many solutions | equation | no solution | linear equations in one variable | solution of an equation NOT: Example 3
5. ANS: A PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 1.3
   NAT: HSA-REI.B.3
   KEY: solving linear equations with variables on both sides | infinitely many solutions | equation | no solution | linear equations in one variable | solution of an equation NOT: Example 3
6. ANS:
   $r = \sqrt{\frac{A}{\pi}}$

   PTS: 1 DIF: Level 2 REF: Algebra 1 Sec. 1.5
   NAT: HSA-CED.A.4
   KEY: literal equation | rewriting literal equations | rewriting formulas
   NOT: Example 3
7. ANS:
   $x \le 0$ or $x \ge 4$;

   PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 2.6
   NAT: HSA-REI.B.3
   KEY: absolute value inequality | solving absolute value inequalities | inequality | solving inequalities | graph of an inequality | graphing absolute value inequalities NOT: Example 2
8. ANS: B PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 3.3
   NAT: HSA-CED.A.2 | HSF-IF.A.1 | HSF-IF.A.2 KEY: function
   NOT: Example 3

9. ANS: A, B, D, F PTS: 1 DIF: Level 2 REF: Algebra 1 Sec. 3.5
   NAT: HSA-CED.A.2 | HSF-IF.B.4 | HSF-IF.C.7a | HSF-LE.B.5
   KEY: slope | slope-intercept form | x-intercept | linear equation | y-intercept | linear function
   NOT: Combined Concept
10. ANS: A, B, C, E PTS: 1 DIF: Level 2 REF: Algebra 1 Sec. 3.7
    NAT: HSA-CED.A.2 | HSA-REI.D.10 | HSF-IF.C.7b | HSF-BF.B.3
    KEY: absolute value function | parent function | transformation | translation | vertical stretch | vertical shrink | vertex | vertex form | reflection | horizontal shrink | horizontal stretch
    NOT: Combined Concept
11. ANS:
    nonlinear; As x increases by 4, y changes by different amounts.

    PTS: 1 DIF: Level 2 REF: Algebra 1 Sec. 3.2
    NAT: HSA-REI.D.10 | HSF-IF.B.5 | HSF-LE.A.1b
    KEY: linear function | nonlinear function NOT: Example 2
12. ANS:
    $h(-3) = -0.5, h(0) = 7, h(1) = 9.5$

    PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 3.3
    NAT: HSF-IF.A.1 | HSF-IF.A.2 KEY: function NOT: Example 1
13. ANS:
    slope: 6, y-intercept: –8

    PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 3.5
    NAT: HSA-CED.A.2
    KEY: slope | slope-intercept form | constant function | linear equation
    NOT: Example 3
14. ANS:
    slope: $-\frac{1}{4}$, y-intercept: 1

    PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 3.5
    NAT: HSA-CED.A.2
    KEY: slope | slope-intercept form | constant function | linear equation
    NOT: Example 3
15. ANS:
    slope: 5, y-intercept: 5

    PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 3.5
    NAT: HSA-CED.A.2
    KEY: slope | slope-intercept form | constant function | linear equation
    NOT: Example 3

16. ANS:
a. c is the dependent variable and n is the independent variable.
b. domain: 1, 2, 3; range: 430, 610, 790

PTS: 1 DIF: Level 2 REF: Algebra 1 Sec. 3.1
NAT: HSF-IF.A.1
KEY: function | domain | range | independent variable | dependent variable | application
NOT: Application-2

17. ANS: B PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 4.1
NAT: HSA-CED.A.2 | HSF-BF.A.1a | HSF-LE.A.2
KEY: writing equations | slope | y-intercept | equation NOT: Example 1

18. ANS: C PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 4.1
NAT: HSA-CED.A.2 | HSF-BF.A.1a | HSF-LE.A.2
KEY: writing equations | linear equation in two variables | equation
NOT: Example 3

19. ANS: C PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 4.2
NAT: HSA-CED.A.2 | HSF-BF.A.1a | HSF-LE.A.2
KEY: writing equations of lines using a slope and a point | point-slope form | writing equations | equation
NOT: Example 1

20. ANS: C PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 4.3
NAT: HSA-CED.A.2 | HSF-LE.A.2
KEY: parallel lines | writing equations of parallel lines | equation | writing equations
NOT: Example 2

21. ANS: D PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 4.3
NAT: HSA-CED.A.2 | HSF-LE.A.2
KEY: perpendicular lines | writing equations | writing equations of perpendicular lines | equation
NOT: Example 4

22. ANS: A PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 4.6
NAT: HSF-IF.A.3
KEY: sequence | term of a sequence | arithmetic sequence | writing terms of arithmetic sequences | writing sequences NOT: Example 1

23. ANS: D PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 4.7
NAT: HSA-CED.A.2 | HSA-REI.D.10 | HSF-IF.C.7b
KEY: piecewise function | graphing piecewise functions | domain | range of a function
NOT: Example 2

24. ANS: A PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 5.1
NAT: HSA-CED.A.3 | HSA-REI.C.6
KEY: system of linear equations | solution of a system of linear equations | solving systems of linear equations by graphing | solving systems of linear equations NOT: Example 2

25. ANS: D PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 5.1
NAT: HSA-CED.A.3 | HSA-REI.C.6
KEY: system of linear equations | solution of a system of linear equations | solving systems of linear equations by graphing | solving systems of linear equations NOT: Example 2

26. ANS: B PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 5.2
NAT: HSA-CED.A.3 | HSA-REI.C.6
KEY: solving systems of linear equations by substitution | system of linear equations | solving systems of linear equations NOT: Example 2

27. ANS: C PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 5.4
NAT: HSA-CED.A.3 | HSA-REI.C.6
KEY: solving systems of linear equations | no solution | infinitely many solutions | system of linear equations
NOT: Examples 1 and 2
28. ANS: D PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 5.4
NAT: HSA-CED.A.3 | HSA-REI.C.6
KEY: solving systems of linear equations | infinitely many solutions | system of linear equations
NOT: Example 2
29. ANS: A PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 5.7
NAT: HSA-CED.A.3 | HSA-REI.D.12
KEY: system of linear inequalities | graph of a system of linear inequalities | graphing systems of linear inequalities NOT: Example 2
30. ANS: A PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 5.7
NAT: HSA-CED.A.3 | HSA-REI.D.12
KEY: system of linear inequalities | graph of a system of linear inequalities | writing systems of linear inequalities NOT: Examples 4 and 5
31. ANS: A PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 6.1
NAT: HSN-RN.A.2 KEY: simplify | negative exponents | zero exponents
NOT: Example 2
32. ANS: B PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 6.1
NAT: HSN-RN.A.2 KEY: simplify | negative exponents | zero exponents
NOT: Example 2
33. ANS: B PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 6.1
NAT: HSN-RN.A.2 KEY: properties of exponents | simplify
NOT: Example 4
34. ANS:
exponential; As x increases by 1, y is multiplied by 3.

PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 6.3
NAT: HSF-IF.C.9 | HSF-BF.A.1a | HSF-LE.A.1a | HSF-LE.A.2
KEY: exponential function | identifying exponential functions NOT: Example 1
35. ANS: B PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 7.2
NAT: HSA-APR.A.1 KEY: multiplying binomials | polynomial
NOT: Example 1
36. ANS: A PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 7.3
NAT: HSA-APR.A.1
KEY: square of a binomial pattern | multiplying binomials | polynomial | binomial
NOT: Example 1
37. ANS: C PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 7.4
NAT: HSA-APR.B.3 | HSA-REI.B.4b KEY: solving polynomial equations | polynomial equation
NOT: Example 2
38. ANS: B PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 7.4
NAT: HSA-APR.B.3 | HSA-REI.B.4b
KEY: solving polynomial equations | polynomial equation | factoring polynomials
NOT: Example 4

39. ANS: C PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 7.7
NAT: HSA-SSE.A.2 | HSA-SSE.B.3a
KEY: solving polynomial equations | polynomial equation | polynomial
NOT: Example 4
40. ANS: A PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 7.7
NAT: HSA-SSE.A.2 | HSA-SSE.B.3a
KEY: solving polynomial equations | polynomial equation | polynomial
NOT: Example 4
41. ANS: D PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 9.2
NAT: HSA-REI.D.11 | HSF-IF.C.7a
KEY: quadratic equation | solving quadratic equations | solving quadratic equations by graphing | two real solutions | equation NOT: Example 1
42. ANS: A PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 9.3
NAT: HSA-REI.B.4b
KEY: solving quadratic equations using square roots | solving quadratic equations | equation | quadratic equation NOT: Example 2
43. ANS: A PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 7.6
NAT: HSA-SSE.A.2 | HSA-SSE.B.3a
KEY: factoring ax^2 + bx + c when ac is positive | factoring polynomials | polynomial
NOT: Example 2
44. ANS: D PTS: 1 DIF: Level 2 REF: Algebra 1 Sec. 8.1
NAT: HSA-CED.A.2 | HSF-IF.C.7a | HSF-BF.B.3
KEY: quadratic function | graphing f(x) = ax^2 | characteristics of quadratic functions
NOT: Combined Concept
45. ANS: A PTS: 1 DIF: Level 2 REF: Algebra 1 Sec. 8.1
NAT: HSA-CED.A.2 | HSF-IF.C.7a | HSF-BF.B.3
KEY: quadratic function | graphing f(x) = ax^2 | characteristics of quadratic functions
NOT: Combined Concept
46. ANS: F PTS: 1 DIF: Level 2 REF: Algebra 1 Sec. 8.1
NAT: HSA-CED.A.2 | HSF-IF.C.7a | HSF-BF.B.3
KEY: quadratic function | graphing f(x) = ax^2 | characteristics of quadratic functions
NOT: Combined Concept
47. ANS: B PTS: 1 DIF: Level 2 REF: Algebra 1 Sec. 8.1
NAT: HSA-CED.A.2 | HSF-IF.C.7a | HSF-BF.B.3
KEY: quadratic function | graphing f(x) = ax^2 | characteristics of quadratic functions
NOT: Combined Concept
48. ANS: E PTS: 1 DIF: Level 2 REF: Algebra 1 Sec. 8.1
NAT: HSA-CED.A.2 | HSF-IF.C.7a | HSF-BF.B.3
KEY: quadratic function | graphing f(x) = ax^2 | characteristics of quadratic functions
NOT: Combined Concept
49. ANS: C PTS: 1 DIF: Level 2 REF: Algebra 1 Sec. 8.1
NAT: HSA-CED.A.2 | HSF-IF.C.7a | HSF-BF.B.3
KEY: quadratic function | graphing f(x) = ax^2 | characteristics of quadratic functions
NOT: Combined Concept
50. ANS: C PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 9.2
NAT: HSA-REI.D.11 | HSF-IF.C.7a
KEY: finding zero(s) of functions | polynomial function | graph of a polynomial function
NOT: Example 4

51. ANS: C PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 9.4
NAT: HSA-SSE.B.3b | HSA-REI.B.4a | HSA-REI.B.4b | HSF-IF.C.8a
KEY: minimum value | quadratic function | equation | finding maximum or minimum values
NOT: Example 4

52. ANS:
0

PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 9.5
NAT: HSA-REI.B.4a | HSA-REI.B.4b
KEY: number of real solutions of a quadratic equation | equation | quadratic equation
NOT: Example 3

53. ANS:
$x = \frac{-1 - \sqrt{113}}{8}, x = \frac{-1 + \sqrt{113}}{8}$; Quadratic Formula because $a \neq 1$ and b is not divisible by a.

PTS: 1 DIF: Level 2 REF: Algebra 1 Sec. 9.5
NAT: HSA-REI.B.4a | HSA-REI.B.4b KEY: solving quadratic equations | equation | quadratic equation
NOT: Example 5

54. ANS: B PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 10.1
NAT: HSF-IF.C.9 KEY: square root function | radical function | domain
NOT: Example 1

55. ANS: B PTS: 1 DIF: Level 1 REF: Algebra 1 Sec. 10.3
NAT: HSA-CED.A.1 KEY: radical equation | solving radical equations
NOT: Example 2