ALG 2 Prerequisite EXAM (Scramble # 2)ID:B

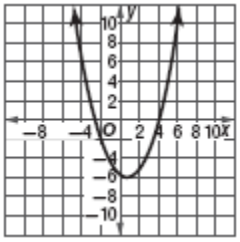
Multiple Choice
Identify the choice that best completes the statement or answers the question.

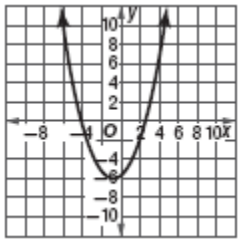
____ 1. What is the solution to this inequality?

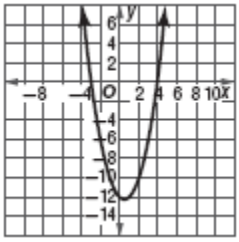
$$-6x - 5 \le 2x + 7$$

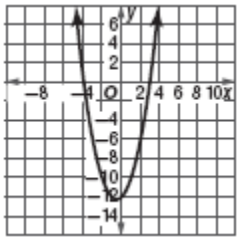
a. $x \ge -0.25$
b. $x \le -0.25$
c. $x \ge -1.5$
d. $x \le -1.5$

____ 2. Which is the graph of the quadratic equation $y = x^2 - x - 12$?

a. 

b. 

c. 

d. 

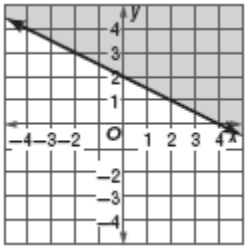
____ 3. $4x^2 - 3x + 12 - 2x^2 + 7x + 16 =$

a. $6x^2 + 28$
b. $6x^2 + 10x + 28$
c. $8x + 28$
d. $2x^2 + 4x + 28$

____ 4. What is the x-intercept of the graph of $8x + 12y = -32$?

a. -4
b. $-2\frac{2}{3}$
c. $2\frac{2}{3}$
d. 4

____ 5. Which inequality is shown on the graph below?



a. $x + 2y \le 4$
b. $x + 2y \ge 4$
c. $2x + y \le 4$
d. $2x + y \ge 4$

____ 6. What is the solution for this equation?

$|6x + 3| = 15$

a. $x = 3$ or $x = -2$
b. $x = -3$ or $x = 2$
c. $x = 3$ or $x = 2$
d. $x = -3$ or $x = -2$

____ 7. What value should be added to both sides of this equation to complete the square?

$$x^2 + 6x = 10$$

a. –9
b. –4
c. 4
d. 9

____ 8. $(2x - 3)(-3x + 4) =$
a. $6x^2 + 17x - 12$
b. $6x^2 - x - 12$
c. $-6x^2 + 17x - 12$
d. $-6x^2 - x - 12$

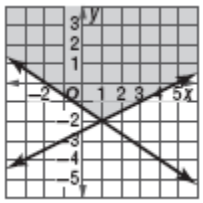
____ 9. $\dfrac{x+2}{x^2+x-6} - \dfrac{1}{x+3} =$
a. $\dfrac{2x+4}{x^2+x-6}$
b. $\dfrac{2x}{x^2+x-6}$
c. $\dfrac{-4}{x^2+x-6}$
d. $\dfrac{4}{x^2+x-6}$

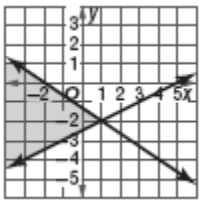
____ 10. What is one of the solutions for $x^2 - 4x = 3$?
a. $\dfrac{1}{2} + \dfrac{\sqrt{28}}{2}$
b. $4 \pm \sqrt{\ }$
c. $2 \pm \sqrt{\ }$
d. $\dfrac{16 + \sqrt{28}}{2}$

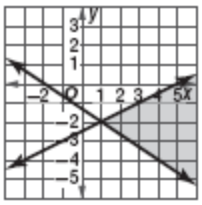
____ 11. Simplify $\dfrac{h^2 + 10h + 25}{h^2 - 25}$ to lowest terms.
a. $\dfrac{h+5}{h+5}$
b. $\dfrac{h-5}{h+5}$
c. $\dfrac{h+5}{h-5}$
d. $\dfrac{h-5}{h-5}$

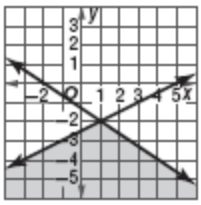
____ 12. Which graph *best* represents the solution to this system of inequalities?

$$\begin{cases} 2y - x \le -5 \\ -3y - 2x \ge 4 \end{cases}$$

a. 

c. 

b. 

d. 

____ 13. Which point lies on the line defined by $y = 4x - 1$?
a. (11, 3)
b. (3, 11)
c. (4, –1)
d. (–1, 4)

____ 14. $(2^3)^2 =$
a. 64
b. 32
c. 12
d. 10

____ 15. Joanna's cell phone plan costs $49.99 a month for 500 minutes and $0.45 for each additional minute. The equation $C = 49.99 + 0.45m$ represents the monthly charges. Last month, Joanna's bill was $58.99. For how many extra minutes did she talk on her phone?
a. 2 minutes
b. 5 minutes
c. 9 minutes
d. 20 minutes

____ 16. What are the solutions for the quadratic equation $x^2 + 4x = 12$?
a. –2, –6
b. 2, –6
c. –2, 6
d. 2, 6

____ 17. Which of the following shows $4x^2 - 28x + 49$ factored completely?
a. $4x^2 - 28 + 49$
b. $4(x^2 - 7) + 49$
c. $(2x - 7)^2$
d. $(-2x - 7)^2$

____ 18. What is the equation of the line that passes through point (–4, 3) and has a slope of –1?
a. $yx=- + 1$
b. $yx=- - 1$
c. $yx=- 7$
d. $yx=+ 7$

____ 19. If $g + h = 0$ is a true statement, then which of the following must also be true?
a. $g = h$
b. $g = \frac{1}{h}$
c. $g = -h$
d. $g = -\frac{1}{h}$

____ 20. Which of the following equations has $x = 2$ as one solution?
a. $|4x + 2| - 7 = 3$
b. $|4x - 2| - 7 = 3$
c. $|4x - 2| + 7 = -3$
d. $|-4x + 2| - 7 = 3$

____ 21. $(9x^2 + 16x - 1) - 3(x^2 + 8x - 2) =$
a. $6x^2 + 24x - 3$
b. $6x^2 - 8x + 5$
c. $6x^2 + 40x - 7$
d. $6x^2 - 8x - 7$

____ 22. What is the factored form of $2x^3 - 10x^2 + 8x$?
a. $2x(x - 1)(x - 4)$
b. $2x(x - 2)(x - 4)$
c. $(2x^2 - 2)(x - 4)$
d. $2(x^2 - 2)(x - 4)$

____ 23. What is the factored form of $x^2 - 3x - 10$?
a. $(x + 2)(x - 5)$
b. $(x - 2)(x + 5)$
c. $(x - 3)(x - 5)$
d. $(x + 2)(x + 5)$

____ 24. Which of the following shows $9x^2 - 16$ factored completely?
a. $(3x - 4)(3x + 4)$
b. $9x^2 - 16$
c. $(3x - 4)^2$
d. $(-3x - 4)^2$

____ 25. Jack is 3 years younger than Bryden, who is twice as old as Jamal. The sum of the three brothers' ages is 57. How old is Jamal?

a. 12 years old
c. 21 years old
b. 19 years old
d. 24 years old

____ 26. $3xy^2(2x^2y) =$

a. $6x^2y^2$
c. $6x^3y^3$
b. $3x^3y^5$
d. $3x^2y^4$

____ 27. What is the solution to this system of equations?

$$\begin{cases} -3x - 2y = -4 \\ 6x + 4y = 16 \end{cases}$$

a. (0, 8)
c. infinitely many solutions
b. (0, 4)
d. no solution

____ 28. $\dfrac{8x^6y^2}{2x^3y^4} =$

a. $\dfrac{4x^3}{y^2}$
c. $6x^3y^{-2}$
b. $4x^2y^{\frac{1}{2}}$
d. $6x^2y^{\frac{1}{2}}$

____ 29. The length of a rectangle is 2 less than 3 times the width. If the area is 96 square inches, what is the length of the rectangle?

a. $5\frac{1}{3}$ inches
c. 14 inches
b. 6 inches
d. 16 inches

____ 30. $2^4 \times 2^7 =$

a. 2^{28}
c. 56
b. 2^{11}
d. 22

____ 31. $\dfrac{2x+4}{x+2} + \dfrac{5x+5}{x+2} =$

a. $\dfrac{7x+9}{x+2}$
c. $\dfrac{7x+9}{x^2+4x+4}$
b. $\dfrac{7x+9}{2x+3}$
d. $7x + 9$

____ 32. Which equation represents a line that is parallel to $y = -3x - 2$?

a. $y = \frac{1}{3}x - 1$
c. $y = -\frac{1}{3}x - 1$
b. $y = -3x + 1$
d. $y = 3x + 2$

____ 33. Which property *best* explains why one solution of the equation $(x - 3)(x + 2) = 0$ is $x = 3$?

a. Multiplication Property of Equality
c. Commutative Property of Multiplication
b. Zero Product Property of Multiplication
d. Distributive Property

____ 34. The equation of line *r* is $2x + 12y = -8$, and the equation of line *s* is $6x - y = 7$. Which statement about the two lines is true?

a. Lines *r* and *s* are perpendicular.
c. Lines *r* and *s* have the same *y*-intercept.
b. Lines *r* and *s* are parallel.
d. Lines *r* and *s* have the same *x*-intercept.

____ 35. Which equation is equivalent to $4x + 6(x - 7) = 2 + x$?

a. $9x = 44$
c. $10x = 44$
b. $9x = 9$
d. $10x = 9$

____ 36. LaJon buys 3 bags of peanuts, 2 drinks for $2 each and 4 hot dogs for $2.75 each. He spends a total of $24.75. How much does each bag of peanuts cost?

a. $11.25
c. $3.25
b. $6.70
d. $2.80

____ 37. If $x^2 = 16$, what could be the value of x?

a. 14
c. –7
b. 7
d. –14

____ 38. What is the equation of the line that passes through points (1, 12) and (–2, –3)?

a. $y = 5x - 7$
c. $y = -9x + 21$
b. $y = 5x + 7$
d. $y = -9x - 21$

____ 39. Which inequality is equivalent to $-4x + 13 < 2x + 3$?

a. $10 < 6x$
c. $16 < -2x$
b. $10 > 6x$
d. $16 > -2x$

____ 40. $\dfrac{y^2 - 5y + 6}{y^2 - 6y + 8} \cdot \dfrac{y^2 - 9y + 20}{4y - 20} =$

a. $\dfrac{y - 3}{4}$
c. $\dfrac{y + 3}{4}$
b. $\dfrac{y + 14}{12}$
d. $\dfrac{y - 14}{12}$

____ 41. Solve: $4(x + 3) = 8x - 2(x + 1)$

Step 1: $4x + 3 = 8x - 2x + 1$
Step 2: $4x + 2 = 6x$
Step 3: $2 = 2x$
Step 4: $1 = x$

Which step is the first *incorrect* step in the solution shown above?

a. Step 1
c. Step 3
b. Step 2
d. Step 4

____ 42. What is $\dfrac{x^2 + 2x - 3}{2x - 2}$ reduced to lowest terms?

a. $\dfrac{x - 3}{2}$
c. $\dfrac{x - 3}{-2}$
b. $\dfrac{x + 3}{2}$
d. $\dfrac{x + 3}{-2}$

____ 43. Which of the following is an appropriate first step in solving the equation?

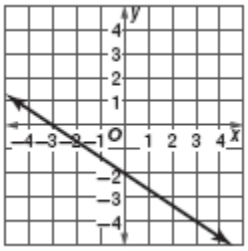
$$4(x - 2) + 3(x + 2) = 9x - 5?$$

a. Subtract $2x$ from both sides of the equation.
b. Divide each side by 7.
c. Cross off the –2 and +2 since they are opposites.
d. Multiply $x - 2$ by 4 and $x + 2$ by 3.

____ 44. What is the solution set for the inequality $2|x - 4| \leq 6$?

a. $1 \leq x \leq 7$
b. $x \geq 1$ or $x \geq 7$
c. $x \leq 1$ or $x \leq 7$
d. $x \leq 1$ or $x \geq 7$

____ 45. Which equation is shown on the graph below?



a. $y = -\frac{3}{2}x - 2$
b. $y = -\frac{3}{2}x - 3$
c. $y = -\frac{2}{3}x - 2$
d. $y = -\frac{2}{3}x - 3$

____ 46. Which relation is a function?

a. {(–1, 1), (0, 3), (2, 7), (3, 9)}
b. {(0, 1), (1, 3), (2, 7), (1, –2)}
c. {(–1, 3), (0, 3), (–2, 5), (–1, 1)}
d. {(2, 1), (2, 2), (2, 3), (2, 4)}

____ 47. If $\frac{5}{3} \times a = 1$ is a true statement, what is the value of a?

a. $\frac{5}{3}$
b. $\frac{3}{5}$
c. $-\frac{3}{5}$
d. $-\frac{5}{3}$

____ 48. What value of x makes this equation true?

$$7 + 3(6 - 4x) = -2x$$

a. $x = 1.71$
b. $x = 2.5$
c. $x = 10$
d. $x = 12.5$

____ 49. Which expression is equivalent to $s^8 \div s^2$?

a. s^6
b. s^4
c. $6s$
d. $4s$

____ 50. What is the solution to this system of equations?

$$\begin{cases} 5x + 2y = 2 \\ y = x + 4 \end{cases}$$

a. (–8, –20)
b. (–20, –56)
c. (–8, –26)
d. (–20, –64)

ALG 2 Prerequisite EXAM (Scramble # 2)ID:B
Answer Section

MULTIPLE CHOICE

1.	ANS: C	PTS: 1	STA: [Key]5.0	MSC: CAHSEE | Key
2.	ANS: C	PTS: 1	STA: [Key]21.0	MSC: Key
3.	ANS: D	PTS: 1	STA: [Key]10.0	MSC: CAHSEE | Key
4.	ANS: A	PTS: 1	STA: [Key]6.0	MSC: CAHSEE | Key
5.	ANS: B	PTS: 1	STA: [Key]6.0	MSC: CAHSEE | Key
6.	ANS: B	PTS: 1	STA: 3.0	MSC: CAHSEE
7.	ANS: D	PTS: 1	STA: [Key]14.0	MSC: Key
8.	ANS: C	PTS: 1	STA: [Key]10.0	MSC: CAHSEE | Key
9.	ANS: D	PTS: 1	STA: [Key]13.0	MSC: Key
10.	ANS: C	PTS: 1	STA: [Key]20.0	MSC: Key
11.	ANS: C	PTS: 1	STA: [Key]12.0	MSC: Key
12.	ANS: D	PTS: 1	STA: [Key]9.0	MSC: CAHSEE | Key
13.	ANS: B	PTS: 1	STA: [Key]7.0	MSC: CAHSEE | Key
14.	ANS: A	PTS: 1	STA: [Key]2.0	MSC: CAHSEE | Key
15.	ANS: D	PTS: 1	STA: [Key]5.0	MSC: CAHSEE | Key
16.	ANS: B	PTS: 1	STA: [Key]14.0	MSC: Key
17.	ANS: C	PTS: 1	STA: 11.0	
18.	ANS: B	PTS: 1	STA: [Key]7.0	MSC: CAHSEE | Key
19.	ANS: C	PTS: 1	STA: [Key]2.0	MSC: CAHSEE | Key
20.	ANS: A	PTS: 1	STA: 3.0	MSC: CAHSEE
21.	ANS: B	PTS: 1	STA: [Key]10.0	MSC: CAHSEE | Key
22.	ANS: A	PTS: 1	STA: 11.0	
23.	ANS: A	PTS: 1	STA: 11.0	
24.	ANS: A	PTS: 1	STA: 11.0	
25.	ANS: A	PTS: 1	STA: [Key]5.0	MSC: CAHSEE | Key
26.	ANS: C	PTS: 1	STA: [Key]10.0	MSC: CAHSEE | Key
27.	ANS: D	PTS: 1	STA: [Key]9.0	MSC: CAHSEE | Key
28.	ANS: A	PTS: 1	STA: [Key]10.0	MSC: CAHSEE | Key
29.	ANS: D	PTS: 1	STA: [Key]23.0	MSC: Key
30.	ANS: B	PTS: 1	STA: [Key]2.0	MSC: CAHSEE | Key
31.	ANS: A	PTS: 1	STA: [Key]13.0	MSC: Key
32.	ANS: B	PTS: 1	STA: 8.0	MSC: CAHSEE
33.	ANS: B	PTS: 1	STA: 25.1	
34.	ANS: A	PTS: 1	STA: 8.0	MSC: CAHSEE
35.	ANS: A	PTS: 1	STA: [Key]4.0	MSC: CAHSEE | Key
36.	ANS: C	PTS: 1	STA: [Key]15.0	MSC: CAHSEE | Key
37.	ANS: D	PTS: 1	STA: [Key]14.0	MSC: Key
38.	ANS: B	PTS: 1	STA: [Key]7.0	MSC: CAHSEE | Key
39.	ANS: A	PTS: 1	STA: [Key]4.0	MSC: CAHSEE | Key
40.	ANS: A	PTS: 1	STA: [Key]13.0	MSC: Key
41.	ANS: A	PTS: 1	STA: [Key]5.0	MSC: CAHSEE | Key

42.	ANS:	B	PTS:	1	STA:	[Key]12.0	MSC: Key
43.	ANS:	D	PTS:	1	STA:	[Key]5.0	MSC: CAHSEE | Key
44.	ANS:	A	PTS:	1	STA:	3.0	MSC: CAHSEE
45.	ANS:	C	PTS:	1	STA:	[Key]6.0	MSC: CAHSEE | Key
46.	ANS:	A	PTS:	1	STA:	16.0	
47.	ANS:	B	PTS:	1	STA:	[Key]2.0	MSC: CAHSEE | Key
48.	ANS:	B	PTS:	1	STA:	[Key]5.0	MSC: CAHSEE | Key
49.	ANS:	A	PTS:	1	STA:	[Key]2.0	MSC: CAHSEE | Key
50.	ANS:	B	PTS:	1	STA:	[Key]9.0	MSC: CAHSEE | Key