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Unit 4 - Equation Review

1. Find the value of  $a^2 - b$  if  $a = 3$  and  $b = -5$ .

- 1. 14    3. 2
- 2. 4    4. 11

2. Solve for  $x$ :  $6(x - 2) - 4x = 16$

- 1. 2    3. 12
- 2. 7    4. 14

3. Solve for  $x$ :  $\frac{x-1}{6} = \frac{1}{3}$

- 1. 1    3. 3
- 2. -3    4. 5

4. Find the sum of  $4x^2 - 3x + 6$  and  $-7x^2 + 3x + 6$

- 1.  $7x^2 + 6x + 12$
- 2.  $-3x^2 + 6x + 12$
- 3.  $3x^2 - 12$
- 4.  $-3x^2 + 12$

5. Solve for  $x$ :  $\frac{3x}{4} - 1 = 2$

- 1.  $\frac{4}{3}$
- 2. 2
- 3. 3
- 4. 4

6. Solve for  $x$ :  $\frac{3}{x+2} = \frac{1}{x}$ ,  $x \neq 0$ ,  $x \neq -2$

- 1. 1
- 2. 2
- 3. -1
- 4.  $\frac{1}{2}$

7. Solve for  $x$ :  $4(2x - 1) = 2x + 35$

- 1. 3.9    3. 6
- 2. 6.5    4. 39

8. Solve for  $x$ :  $\frac{x}{7} - 5 = -4$

- 1. 7    3. 63
- 2. -7    4. -63

9. What is the value of  $x$  in the equation  $4(2x + 1) = 27 + 3(2x - 5)$ ?

- 1. 21
- 2. 9
- 3.  $7\frac{1}{2}$
- 4. 4

10. Solve for  $x$ :  $1.4x - 0.9 = 3.3$

- 1. 1.2    3. 4.2
- 2. 3    4. 5.98

11. Solve for  $x$ :  $9x - 4(x - 3) = 72$

- 1. 6    3. 17
- 2. 12    4. 19

12. Which is a rational number?

- 1.  $\sqrt{7}$
- 2.  $\sqrt{18}$
- 3.  $\sqrt{49}$
- 4.  $\sqrt{20}$

13. Solve for  $x$ :  $2(x + 1) = 3(4 - x)$

- 1. -4    3. -2
- 2. 2    4. 4

14. Solve for  $x$ :  $\frac{x}{x+2} = \frac{4}{5}, x \neq -2$

- 1. 2    3. 6
- 2. 4    4. 8

15. What is the value of  $x$  in the equation  $5(2x - 7) = 15x - 10$ ?

- 1.1 3.-5
- 2.0.6 4.-9

16. What is the value of  $x$  in the equation  $13x - 2(x + 4) = 8x + 1$ ?

- 1.1 3.3
- 2.2 4.4

17.

Which value of  $p$  is the solution of  $5p - 1 = 2p + 20$ ?

- 1.  $\frac{19}{7}$
- 2.  $\frac{19}{3}$
- 3. 3
- 4. 7

18. The solution of the equation  $5 - 2x = -4x - 7$  is

- 1.1 3.-2
- 2.2 4.-6

19. What is the value of  $x$  in the equation  $393 + x = 724$ ?

- 1.113 3.313
- 2.133 4.331

20. Tanisha is going bowling with her friends. It costs \$3.00 to rent a pair of shoes and \$4.50 per game. If Tanisha has \$16.50, which equation can she use to determine how many games,  $g$ , she can bowl?

- 1.  $3g + 4.50 = 16.50$
- 2.  $4.50g + 3 = 16.50$
- 3.  $3(g + 4.50) = 16.50$
- 4.  $3 + 4.50 + 16.50 = g$

21. On his first day of sales, Patrick earned \$26.50 selling lemonade. At the end of Day 2, he had a total of \$57.25. If  $x$  represents the amount of money he made on Day 2, which equation correctly represents this situation?

- 1.  $x + 26.50$
- 2.  $x + 26.50 = 57.25$
- 3.  $x - 57.25 = 30.75$
- 4.  $x + 57.25 = 26.50$

22. What is the correct verbal expression for the given algebraic equation,  $3x - 6 = -2$ ?

1. Three times a number decreased by  $-6$  is  $-2$ .
2. Three times a number decreased by  $6$  is  $-2$ .
3. Twice a number increased by  $3$  is  $4$ .
4. A number cubed decreased by  $6$  is  $-2$ .

23. Use algebra to solve  $1.6x = 12.8$ .

1.  $x = 6$
2.  $x = 7$
3.  $x = 8$
4.  $x = 9$

24. Solve the equation for  $d$ :  $10d = 60$

1.  $d = 6$
2.  $d = 50$
3.  $d = 60$
4.  $d = 600$

25. Which is the correct verbal expression for the mathematical expression  $5 - 2x$ ?

1. Five less than two times a number.
2. Two times a number less than five.
3. Five more than twice a number.
4. Five times two plus some number.