

Name: _____

1. The number of people on the school board is represented by x . Two subcommittees with an equal number of members are formed, one with $\frac{2}{3}x - 5$ members and the other with $\frac{x}{4}$ members. How many people are on the school board?

- 1.20 3.8
- 2.12 4.4

2. Express the product $(2x - 1)(3x + 4)$ as a trinomial:

1. $5x^2 + 9x - 4$
2. $5x - 4$
3. $6x^2 - 5x - 4$
4. $6x^2 + 5x - 4$

3. In the step-by-step simplification of the expression below, which property is *not* used?

- $3(1 + x)$
- $3(x + 1)$
- $3 \cdot x + 3 \cdot 1$
- $3x + 3$

1. associative 3. distributive
2. commutative 4. identity

4. Which equation could be used to solve the given problem: If three times a number is increased by 24, the result is 4 less than seven times the number.

1. $3(x + 24) = 7x - 4$
2. $3x + 24 = 4 - 7x$
3. $3x + 24 = 7x - 4$
4. $27x = 7x - 4$

5. What is the product of $(x - 7)(2x^2 - 5x + 3)$?

1. $2x^3 - 19x^2 + 38x - 21$
2. $2x^3 + 19x^2 + 38x + 21$
3. $2x^3 - 5x^2 + 3x - 21$
4. $x^3 - 12x^2 - 7x + 21$

6. Which expression is equal to $(x + 3)^2$?

1. $x^2 + 6$
2. $x^2 + 9$
3. $x^2 + 6x + 9$
4. $x^2 + 3x + 9$

7. Solve for x : $\frac{3}{4}x - 6 = 3$

1. 12
2. 9
3. 6
4. 4

8. In 3 hours, a car traveled 180 kilometers. At the same average rate, how many kilometers can the car travel in 5 hours?

1. 60
2. 180
3. 240
4. 300

9. The expression $(3x^2 + 2xy + 7) - (6x^2 - 4xy + 3)$ is equivalent to

1. $-3x^2 - 2xy + 4$
2. $3x^2 - 2xy + 4$
3. $-3x^2 + 6xy + 4$
4. $3x^2 - 6xy - 4$

10. In the Ambrose family, the ages of the three children are three consecutive even integers. If the age of the youngest child is represented by $x + 3$, which expression represents the age of the oldest child?

1. $x + 5$
2. $x + 6$
3. $x + 7$
4. $x + 8$

11. If $c = 2m + d$, then m is equal to

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

12. Brett was given the problem: "Evaluate $2x^2 + 5$ when $x = 3$." Brett wrote that the answer was 41. Was Brett correct?

1. yes
2. no
3. cannot say

13. If $2ax - 5x = 2$, then x is equivalent to

1. $\frac{2+5a}{2a}$
2. $\frac{1}{a-5}$
3. $\frac{2}{2a-5}$
4. $7-2a$

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

1. 2 3. 12
2. 7 4. 14

15. A car is travelling at 60 miles per hour. How many miles per minute is the car travelling?

1. 1
2. $\frac{1}{60}$
3. $\frac{1}{360}$
4. 3600

16. If 10 cubic centimeters of blood contains 1.2 grams of hemoglobin, how many grams of hemoglobin would 35 cubic centimeters of the same blood contain?

1. 4.2 3. 29.2
2. 42 4. 291.7

17. Solve for x : $8x + 9 = 5x + 6$

1. -1 3. 5
2. 1 4. -3/13

18. What is the product of $-6x^3$ and $2x^5$?

1. $-4x^8$
2. $-12x^8$
3. $-12x^{15}$
4. $-4x^{15}$

19. If $bx - 2 = K$, then x equals

1. $\frac{K}{b} + 2$
2. $\frac{K - 2}{b}$
3. $\frac{2 - K}{b}$
4. $\frac{K + 2}{b}$

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

1. 3.9
2. 6.5
3. 6
4. 39

21. 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. $-3x^2 + 12$

22. Solve for x : $\frac{2}{3}x - 6 = 14$

1. 12
2. 30
3. $\frac{40}{3}$
4. $\frac{3}{40}$

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

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

24. Solve for x : $7.32 = 0.05x - 0.18$

1. 150 3. 165

2. 158 4. 168

25. If $x + ay = b$, then y equals

1. $\frac{b-x}{a}$

2. $\frac{b}{x+a}$

3. $b - x - a$

4. $\frac{b-a}{x}$