

Name: _____ Period: _____ Date: _____

Properties of Real Numbers Assignment

State the property of real numbers that is used:

1. $4ab + 0 = 4ab$

2. $1 \cdot (4x) = 4x$

3. $7(a + b) = 7(b + a)$

4. $4 \cdot \frac{1}{4} = 1$

5. $ab + (-ab) = 0$

Using the properties of real numbers, simplify the following expressions:

6. $8 - 3(2x - 5)$

7. $5(3x + 4) - 4$

8. $2(5x + 4) - 3$

9. $7(9) + 7(5)$

10. $2(5x - 1) + 14x$

11. $5(3s - 2) + 12x$

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12. $7(3y - 5) + 2(4y + 3)$

13. $4(2y - 6) + 3(5y + 10)$

14. $5(3y - 2) - (7y + 2)$

15. $4(5y - 3) - (6y + 3)$

16. $7 - 4[3 - (4y - 5)]$

17. $6 - 5[8 - (2y - 4)]$

18. $5x - 3[7 - 2(6x - 7) - 3x]$

Properties of Real Numbers Assignment

ANSWER

State the property of real numbers that is used:

1. $4ab + 0 = 4ab$

Additive identity property

2. $1 \cdot (4x) = 4x$

Multiplicative identity property

3. $7(a + b) = 7(b + a)$

Commutative property of addition

4. $4 \cdot \frac{1}{4} = 1$

Multiplicative inverse property

5. $ab + (-ab) = 0$

Additive identity property

Using the properties of real numbers, simplify the following expressions:

19. $8 - 3(2x - 5)$
 $= 8 - 6x + 15$
 $= -6x + 23$

20. $5(3x + 4) - 4$
 $= 15x + 20 - 4$
 $= 15x + 16$

21. $2(5x + 4) - 3$
 $= 10x + 8 - 3$
 $= 10x + 5$

22. $7(9) + 7(5)$
 $63 + 35$
 $= 98$

23. $2(5x - 1) + 14x$
 $= 10x - 2 + 14x$
 $= 24x - 2$

24. $5(3x - 2) + 12x$
 $= 15x - 10 + 12x$
 $= 27x - 10$

Properties of Real Numbers Assignment

$$\begin{aligned} 25. \quad & 7(3y - 5) + 2(4y + 3) \\ &= 21y - 35 + 8y + 6 \\ &= 29y - 29 \end{aligned}$$

$$\begin{aligned} 26. \quad & 4(2y - 6) + 3(5y + 10) \\ &= 8y - 24 + 15y + 30 \\ &= 23y + 6 \end{aligned}$$

$$\begin{aligned} 27. \quad & 5(3y - 2) - (7y + 2) \\ &= 15y - 10 - 7y - 2 \\ &= 8y - 12 \end{aligned}$$

$$\begin{aligned} 28. \quad & 4(5y - 3) - (6y + 3) \\ &= 20y - 12 - 6y - 3 \\ &= 14y - 15 \end{aligned}$$

$$\begin{aligned} 29. \quad & 7 - 4[3 - (4y - 5)] \\ &= 7 - 4[3 - 4y + 5] \\ &= 7 - 4[8 - 4y] \\ &= 7 - 32 + 16y \\ &= 16y - 25 \end{aligned}$$

$$\begin{aligned} 30. \quad & 6 - 5[8 - (2y - 4)] \\ &= 6 - 5[8 - 2y + 4] \\ &= 6 - 5[12 - 2y] \\ &= 6 - 60 + 10y \\ &= 10y - 54 \end{aligned}$$

$$\begin{aligned} 31. \quad & 5x - 3[7 - 2(6x - 7) - 3x] \\ &= 5x - 3[7 - 12x + 14 - 3x] \\ &= 5x - 3[21 - 15x] \\ &= 5x - 63 + 45x \\ &= 50x - 63 \end{aligned}$$