

Name _____

Score _____

Use the given Property of the Real Numbers to complete the statement.

- | | | |
|--|--|-----------|
| 1. The Associative Property of Addition
$(7+3)+5 = ?+(3+5)$ | 2. The Commutative Property of Multiplication
$8 \cdot 5 = 5 \cdot ?$ | 1. _____ |
| 3. The Multiplication Property of One
$7 \cdot ? = 7$ | 4. The Distributive Property
$(8+3)7 = 8 \cdot 7 + ?$ | 2. _____ |
| 5. The Inverse Property of Addition
$x + ? = 0$ | 6. The Division Properties of Zero
$\frac{?}{5} = 0$ | 3. _____ |
| 7. The Multiplication Property of Zero
$6 \cdot 0 = ?$ | 8. The Commutative Property of Addition
$xy + wz = ? + xy$ | 4. _____ |
| 9. The Associative Property of Multiplication
$4(5x) = ? \cdot x$ | 10. The Inverse Property of Multiplication
$\frac{1}{x}(x) = ?$ | 5. _____ |
| 11. The Addition Property of Zero
$4 + ? = 4$ | 12. The Distributive Property
$3(x+2) = ? \cdot x + 6$ | 6. _____ |
| | | 7. _____ |
| | | 8. _____ |
| | | 9. _____ |
| | | 10. _____ |
| | | 11. _____ |
| | | 12. _____ |

Identify the property that justifies the statement.

- | | | |
|--------------------------------|---|-----------|
| 13. $-11+11=0$ | 14. $d(f+g) = df + dg$ | 13. _____ |
| 15. $(-45y)(0) = 0$ | 16. $a \cdot 1 = a$ | 14. _____ |
| 17. $(a+b)+c = a+(b+c)$ | 18. $\frac{0}{7} = 0$ | 15. _____ |
| 19. $\frac{7}{0}$ is undefined | 20. $-7+0 = -7$ | 16. _____ |
| 21. $a(bc) = (ab)c$ | 22. $mn\left(\frac{1}{mn}\right) = 1$ | 17. _____ |
| 23. $a+b = b+a$ | 24. $(a \cdot b) \cdot c = c \cdot (a \cdot b)$ | 18. _____ |
| | | 19. _____ |
| | | 20. _____ |
| | | 21. _____ |
| | | 22. _____ |
| | | 23. _____ |
| | | 24. _____ |

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Evaluate the variable expression when $a = 1$, $b = -2$, $c = 3$, and $d = -4$.

1. $ad + bc$

2. $d^2 + (a-b)^2$

3. $2(a+b)^2 \div d^2$

1. _____

2. _____

3. _____

4. $3b^2 \div \frac{b-d}{2}$

5. $\frac{2bc}{-3} + a^2$

6. $\frac{3a+3c}{d}$

4. _____

5. _____

6. _____

7. $\frac{2d-b}{b-2a}$

8. $|b^2 + 2d|$

9. $-c|a+2b|$

7. _____

8. _____

9. _____

10. $b^2 - a^2$

11. $a^2 + b^2 - c^2$

12. $|d^2 - b^2|$

10. _____

11. _____

12. _____

13. $-b|c+2d|$

14. $\frac{2d-a}{c-2a}$

15. $\frac{3c+a^2}{b^2+a}$

13. _____

14. _____

15. _____

16. $-3bc - \left| \frac{ac-b}{ab+c} \right|$

17. $\frac{3(d+b)}{c-2a}$

18. $(d+2b) \div a^3$

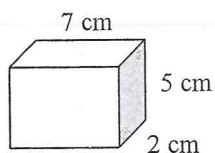
16. _____

17. _____

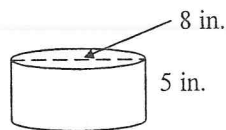
18. _____

Find the volume of the figure. Give exact answers.

19.



20.

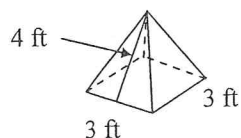


19. _____

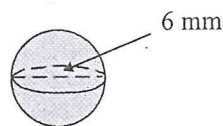
20. _____

Find the surface area of the figure. Give exact answers.

21.



22.



21. _____

22. _____