

Algebra Properties Worksheet

Name: _____

Date: _____ Per: _____

For #1-27, name the property illustrated by each statement.

1. $x + y = y + x$

2. $6(m \cdot n) = (6 \cdot m)n$

3. $k + 0 = k$

4. $3t + 2r = 2r + 3t$

5. $6(u + 2v) = 6u + 12v$

6. $0 = 100 \cdot 0$

7. $(2a + 3b) + 4c = 2a + (3b + 4c)$

8. $pq + n = qp + n$

9. $gx = xg$

10. $15c + 15d = 15(c + d)$

11. $0 + b = b$

12. If $x + y = 3$, then $3 = x + y$

13. $x = x$

14. $4 \cdot 1 = 4$

15. $1 \cdot y = y$

16. $6 = 6$

17. $0 = 0 \cdot 12$

18. $5 = 5 + 0$

19. If $12 = 17 - 5$, then $17 - 5 = 12$

20. $7(8 - 3) = 7(5)$

21. $w + (4 + 6) = w + 10$

22. $x + 2 = x + 2$

23. $(6+9)x = 15x$

24. $(7-4)(6) = 3(6)$

25. If $6+3=9$ and $9=3(3)$, then $6+3=3(3)$

26. $8+5=(4+4)+5$

For #27-28, name the property used in each step.

27. $ab(a+b) = (ab)a + (ab)b$

$= a(ab) + (ab)b$

$= (a \cdot a)b + a(b \cdot b)$

$= a^2b + ab^2$

28. $3c + 5(2+c) = 3c + 5(2) + 5c$

$= 3c + 5c + 5(2)$

$= (3c + 5c) + 5(2)$

$= (3+5)c + 5(2)$

$= 8c + 10$

For #29-30, evaluate the expression and name the property used in each step.

29. $2 + 6(9 - 3^2) - 2$

30. $5(13 - 39 \div 3) + 7 \cdot 1$