

Objectives: I can use the distributive property with numerical and variable expressions.

Distributive Property with Mental Math

Notes

You can use the distributive property to help with mental math.

| | | | |
|------------|------------|--------|-------|
| 6 (31) | 7(49) | 9(102) | 3(88) |
| 6(30 + 1) | 7(50 - 1) | | |
| 180 + 6 | 350 - 7 | | |
| 186 | 343 | | |

Practice

Use the distributive property to solve with mental math.

- 1. 5(39)
- 2. 7(51)
- 3. 4(38)
- 4. 9(62)

Notes

You can use the distributive property to multiply mixed numbers.

| | | | |
|-------------------------------------|-------------------------------------|----------------------------------|----------------------------------|
| $12 \left(2 \frac{1}{3} \right)$ | $5 \left(3 \frac{2}{11} \right)$ | $7 \left(5 \frac{2}{7} \right)$ | $4 \left(5 \frac{1}{2} \right)$ |
| $12 \left(2 + \frac{1}{3} \right)$ | $5 \left(3 + \frac{2}{11} \right)$ | | |
| 24 + 4 | $15 + \frac{10}{11}$ | | |
| 28 | $15 \frac{10}{11}$ | | |

Practice

Use the distributive property to multiply mixed numbers..

- 1. $8 \left(2 \frac{1}{4} \right)$
- 2. $3 \left(4 \frac{3}{10} \right)$
- 3. $2 \left(7 \frac{2}{5} \right)$

Combining Like Terms and The Distributive Property



The following examples involve both the Distributive Property and combining like terms.

$5(2x + 8) - 7$

1st: Distribute the # outside the () just to the terms inside the ().

$10x + 40 - 7$

2nd: Combine like terms

$10x + 33$

$4 + 2(-x + 8)$

$4 - 2x + 16$

$-2x + 12$

$-3(5x + 9y) + 15x$

$-15x - 27y + 15x$

$27y$