

# Signed Numbers and Like Terms

Consider

$$+7 - 3 - 8 + 5 - 2 + 3 + 6 - 4 - 7 + 1$$

Working along the line one term at a time leads to an answer of  $-2$

or

$$\begin{aligned} & +7 + 5 + 3 + 6 + 1 \quad -3 - 8 - 2 - 4 - 7 \\ & = \quad +22 \quad -24 \\ & = \quad -2 \end{aligned}$$

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$$+6 + 8 = +14$$

$$-3 - 5 = -8$$

$$+5 - 1 = +4$$

$$+5 - 7 = -2$$

$$-4 + 1 = -3$$

$$-4 + 6 = +2$$

$$-5 + 5 = 0$$

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## Multiplying and Dividing Signed Numbers

$$+ve \times +ve = +ve$$

$$-ve \times -ve = +ve$$

$$+ve \times -ve = -ve$$

$$-ve \times +ve = -ve$$

$$+ve \div +ve = +ve$$

$$-ve \div -ve = +ve$$

$$+ve \div -ve = -ve$$

$$-ve \div +ve = -ve$$

### Examples

$$1) (+3) \times (+2) = +6$$

$$2) (+5) \times (-3) = -15$$

$$3) (-4) \times (+5) = -20$$

$$4) (-1) \times (-3) = +3$$

$$5) (+10) \div (+2) = +5$$

$$6) (+12) \div (-3) = -4$$

$$7) (-30) \div (-3) = +10$$

$$8) (-18) \div (+6) = -3$$

### Exercise

$$1) (-3) \times (-3) = +9 \quad 5) (-8) \div (-2) = +4$$

$$2) (+6) \times (-2) = -12 \quad 6) (+6) \div (+2) = +3$$

$$3) (-10) \times (+4) = -40 \quad 7) (-15) \div (+5) = -3$$

$$4) (+7) \times (+3) = +21 \quad 8) (+14) \div (-2) = -7$$

# Collecting Like Terms

Examples

$$\begin{aligned} 1) \quad & 6x - 3y + 2x + 5y \\ & = 8x + 2y \end{aligned}$$

$$\begin{aligned} 2) \quad & 7p - 5q - 6p + 4q \\ & = p - q \end{aligned}$$

$$\begin{aligned} 3) \quad & 4pq + 2qr + 3pq - qr \\ & = 7pq + qr \end{aligned}$$

$$\begin{aligned} 4) \quad & 5x^2y - 3xy + 4xy^2 + x^2y \\ & = 6x^2y - 3xy + 4xy^2 \end{aligned}$$

$$\begin{aligned} 5) \quad & 7 + 2qpr - 5 + 3rqp \\ & = 2 + 5qpr \end{aligned}$$

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