

Algebra lesson 2 quiz

Substitution

If $x=2$ and $y=3$, Calculate the following:

① $x+4 = 2+4 = 6$

② $3x+2 = 3 \times 2 + 2 = 6+2 = 8$

③ $5x-y = 5 \times 2 - 3 = 10-3 = 7$

④ $7x-3y = 7 \times 2 - 3 \times 3 = 14-9 = 5$

⑤ $3x^2-y = 3 \times 2^2 - 3 = 3 \times 4 - 3 = 12-3 = 9$

⑥ $7xy-xy = 7 \times 2 \times 3 - 2 \times 3 = 42-6 = 36$

Simplifying (Adding/subtracting)

Simplify the following expressions (Do not substitute in values)

① $2x+4x = 6x$

⑨ $7x+5 = 7x+5$

② $15x-3x = 12x$

⑩ $\cancel{7x} + 6 - \cancel{4x} = 3x+6$

③ $6x^2+4x^2 = 10x^2$

⑪ $\cancel{5x} + 2y - \cancel{3x} - 4y = 2x+2y-4y = 2x-2y$

④ $5xy+4x = 5xy+4x$

⑫ $5k+10-3p-6p = 5k+10-9p$

⑤ $7xy+8xy = 15xy$

⑧ $15x^2y-7x^2y = 8x^2y$

Simplifying (Multiplying / dividing)

$$\textcircled{1} \quad 2x \times 3x = 6x^2$$

$$\textcircled{2} \quad 2x \times 3 = 6x$$

$$\textcircled{3} \quad 2x \times 3y = 6xy$$

$$\textcircled{4} \quad 4x^2 \times 3x = 12x^3$$

$$\textcircled{5} \quad \frac{5 \cancel{10}}{\cancel{2}} = 5$$

$$\textcircled{6} \quad \frac{5 \cancel{10}x}{\cancel{2}x} = 5$$

$$\textcircled{7} \quad \frac{5 \cancel{10}x^2}{\cancel{2}x} = 5x$$

$$\textcircled{8} \quad \frac{5 \cancel{20}xy}{\cancel{4}y} = 5x$$

Simplifying (Mixed)

$$\textcircled{1} \quad 2x + 3 \times 5x = 2x + 15x = 17x$$

$$\textcircled{2} \quad 4x \times 5x + 2x = 20x^2 + 2x$$

$$\textcircled{3} \quad 3x \times 7x - 2x^2 = 21x^2 - 2x^2 = 19x^2$$

$$\textcircled{4} \quad \frac{2 \cancel{10}x^2}{\cancel{5}x} + 3x = 2x + 3x = 5x$$

$$\textcircled{5} \quad \frac{4 \cancel{20}xy}{\cancel{5}x} + 2y = 4y + 2y = 6y$$