

ALGEBRA FUNDAMENTALS: SIMPLIFYING & SOLVING

Best Guess Mastery Worksheet (Target Grade 4/5)

I Do

(a) Simplify $5x - 3y + 2x + 7y$

(b) Simplify $4p \times 3q$

(c) Solve $5m = 35$

We Do

(a) Simplify $7a + 2b - 3a + 5b$

(b) Simplify $5m \times 6n$

(c) Solve $8y = 48$

You Do 1

(a) Simplify $9c - 4d + c + 8d$

(b) Simplify $7x \times 2y$

(c) Solve $4k = 36$

You Do 2

(a) Simplify $8f + 5g - 3f - 2g$

(b) Simplify $2a \times 3b \times 4c$

(c) Solve $6p = 42$

Challenge 1

(a) Simplify $4x^2 + 3x - 2x^2 + 5x$

(b) Simplify $3p^2 \times 4p$

(c) Solve $3m + 7 = 22$

Challenge 2

(a) Simplify $5ab - 2a + 3ab + 4a$

(b) Simplify $2x \times 5xy$

(c) Solve $5(2x - 1) = 35$

Practice Perfect

1. Simplify $3x + 4x$

2. Solve $3x = 12$

3. Simplify $2a \times 5b$

4. Simplify $7y - 2x + 3y + 5x$

5. Solve $4m + 5 = 25$

6. Simplify $4p^2 \times 3p^3$

7. Solve $2(3x - 4) = 22$

8. Solve $5x + 2 = 2x + 17$

Answers & Worked Solutions

I Do:

(a) Group like terms: $(5x + 2x) + (-3y + 7y) = \mathbf{7x + 4y}$

(b) Multiply numbers, then letters: $4 \times 3 = 12$, and $p \times q = pq$. Answer: **12pq**

(c) Divide both sides by 5: $m = 35 \div 5 \rightarrow \mathbf{m = 7}$

We Do:

(a) Group like terms: $(7a - 3a) + (2b + 5b) = \mathbf{4a + 7b}$

(b) Multiply numbers, then letters: $5 \times 6 = 30$, and $m \times n = mn$. Answer: **30mn**

(c) Divide both sides by 8: $y = 48 \div 8 \rightarrow \mathbf{y = 6}$

You Do 1:

(a) Group like terms: $(9c + c) + (-4d + 8d) = \mathbf{10c + 4d}$

(b) Multiply numbers, then letters: $7 \times 2 = 14$, and $x \times y = xy$. Answer: **14xy**

(c) Divide both sides by 4: $k = 36 \div 4 \rightarrow \mathbf{k = 9}$

You Do 2:

(a) Group like terms: $(8f - 3f) + (5g - 2g) = \mathbf{5f + 3g}$

(b) Multiply numbers, then letters: $2 \times 3 \times 4 = 24$, and $a \times b \times c = abc$. Answer: **24abc**

(c) Divide both sides by 6: $p = 42 \div 6 \rightarrow \mathbf{p = 7}$

Challenge 1:

(a) Group like terms: $(4x^2 - 2x^2) + (3x + 5x) = \mathbf{2x^2 + 8x}$

(b) Multiply numbers, then add indices for letters: $3 \times 4 = 12$, and $p^2 \times p = p^3$. Answer: **12p³**

(c) Subtract 7 from both sides: $3m = 15$. Divide by 3: **m = 5**

Challenge 2:

(a) Group like terms: $(5ab + 3ab) + (-2a + 4a) = \mathbf{8ab + 2a}$

(b) Multiply numbers, then letters: $2 \times 5 = 10$, and $x \times xy = x^2y$. Answer: **10x²y**

(c) Divide by 5 first: $2x - 1 = 7$. Add 1: $2x = 8$. Divide by 2: **x = 4**

Practice Perfect:

1. $7x$

2. $x = 4$

3. $10ab$

4. $3x + 10y$

5. $m = 5$

6. $12p^5$

7. $x = 5$

8. $x = 5$