

Factorising single brackets



Factorising single brackets

1. Complete the missing terms.

$$2 \quad \begin{array}{|c|c|} \hline \text{.....} & \text{.....} \\ \hline 6a & + 10 \\ \hline \end{array}$$

$$\text{.....} \quad \begin{array}{|c|c|} \hline \text{.....} & \text{.....} \\ \hline 15y & - 20 \\ \hline \end{array}$$

2. Explain why $2a + 3$ does not factorise.

3. Factorise.

a) $2a + 6$

b) $3a + 12$

c) $12 + 3a$

d) $12 - 3a$

e) $4a - 6$

f) $15 - 3a$

g) $15 - 6a$

h) $13a + 52$

i) $4a + 8b + 6$

j) $4a - 7b + 5$



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4. Complete.

a) $\square a + 55 = 5(a + \square)$

b) $55 - 15a = 5(11 - \square a)$

c) $2(2\square + 9) = 4a + \square$

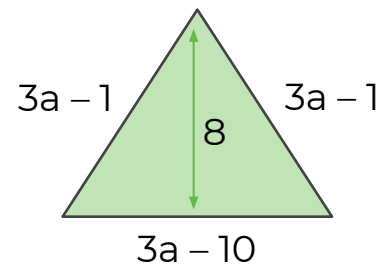
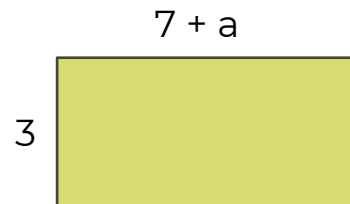
d) $8a + 4b + \square = 2(\square a + \square b + 5)$

5. Fred is factorising $12a + 16$

He says it is $2(6a + 8)$

Is Fred correct?

6. Find an expression for the area and perimeter of these shapes in factorised form.



Answers



Factorising single brackets

1. Complete the missing terms.

$$2 \quad \begin{array}{|c|c|} \hline \overset{\text{.....} \text{ } 3a}{6a} & \overset{\text{.....} \text{ } +5}{+10} \\ \hline \end{array}$$

$$\overset{\text{.....} \text{ } 5}{15y} \quad \begin{array}{|c|c|} \hline \overset{\text{.....} \text{ } 3y}{15y} & \overset{\text{.....} \text{ } -4}{-20} \\ \hline \end{array}$$

2. Explain why $2a + 3$ does not factorise.

There is no common factor of 2 and 3 except 1

3. Factorise.

a) $2a + 6$
 $= 2(a + 3)$

b) $3a + 12$
 $= 3(a + 4)$

a) $12 + 3a$
 $= 3(4 + a)$

d) $12 - 3a$
 $= 3(4 - a)$

e) $4a - 6$
 $= 2(2a - 3)$

f) $15 - 3a$
 $= 3(5 - a)$

g) $15 - 6a$
 $= 3(5 - 2a)$

h) $8a + 52$
 $= 4(2a + 13)$

i) $4a + 8b + 6$
 $= 2(2a + 4b + 3)$

j) $4a - 7b + 5$
Will not factorise



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4. Find the missing values:

a) $5a + 55 = 5(a + 11)$

b) $55 - 15a = 5(11 - 3a)$

c) $2(2a + 9) = 4a + 18$

d) $8a + 4b + 10 = 2(4a + 2b + 5)$

5. Fred is factorising $12a + 16$

He says it is $2(6a + 8)$

Is Fred correct? There is a higher factor $4(3a + 4)$

6. Find an expression for the area and perimeter of these shapes in factorised form.

