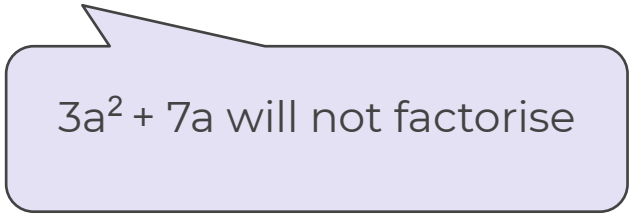
Factorising Single Brackets - Factor out a letter

Mr Lund
Maths

Factorising Single Brackets - Factor out a letter

1. Ron says,



a) Explain why Ron might think this.

b) Explain why Ron is incorrect.

c) Factorise $3a^2 + 7a$

2. Factorise.

a) $a^2 + 5a$

b) $5a + a^2$

c) $5a^2 + 5a$

d) $y^2 - 2y$

e) $-2y + y^2$

f) $2c - c^2$

g) $b^2 + b + b$

h) $b^2 - b - b$

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3. Factorise

a) $y^2 + ay$ b) $y^2 - ay$

c) $-y^2 - ay$ d) $-y^2 - ay$

4. Place these number cards in ascending order if $y > 0$

$y(y + 2.5)$	$y + y^2$	$y^2 + 2y$

b) When $y < 0$ would they be in the Same order?

Always	Sometimes	Never

Tick the right answer

5. Has $3a(2a + 4)$ been fully factorised?

6. Find the next term in the sequence.

$a^2 - 3a$, $(a^2 - a)$, $a(a + 1)$, $a^2 + 2a + a$, . . .

7. Find the missing values.

a) $\square + 4a = a(a + \square)$

b) $\square - a^2 = a(3 - \square)$

c) $a(3 - a) = \square - a^2 + \square$

Answers

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1. Ron says,

$3a^2 + 7a$ will not factorise

a) Explain why Ron might think this.

Because 3 and 7 don't share a common factor greater than 1

b) Explain why Ron is incorrect.

a^2 and a share a common factor

c) Factorise $3a^2 + 7a$ $a(3a + 7)$

2. Factorise.

a) $a^2 + 5a$ $= a(a + 5)$

b) $5a + a^2$ $= a(5 + a)$

c) $5a^2 + 5a$ $= 5a(a + 1)$

d) $y^2 – 2y$ $= y(y – 2)$

e) $– 2y + y^2$ $= y(– 2 + y)$

f) $2c – c^2$ $= c(2 – c)$

g) $b^2 + b + b$ $= b(b + 2)$

h) $b^2 – b – b$ $= b(b – 2)$

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3. Factorise

a) $y^2 + ay$ = $y(y + a)$

b) $y^2 - ay$ = $y(y - a)$

c) $-y^2 - ay$ = $-y(y + a)$

c) $-y^2 + ay$ = $-y(y - a)$

4. Place these number cards in ascending order if $y > 0$

$y + y^2$ | $y^2 + 2y$ | $y(y + 2.5)$

b) When $y < 0$ would they be in the Same order?

Alwa... | Sometimes | ...Never

5. Has $3a(2a + 6)$ been fully factorised?

No, should be $6a(a + 3)$

6. Can you find the next term in this sequence? $a^2 + 5a$

$a^2 - 3a$, $(a^2 - a)$, $a(a + 1)$, $a^2 + 2a + a$, . . .

7. Find the missing values:

a) $a^2 + 4a = a(a + 4)$

b) $3a - a^2 = a(3 - a^2)$

c) $a(3 - a) = a - a^2 + 2a$ or $2a - a^2 + a$