

Factorise Single Brackets – Factor a number and a letter



Factorise Single Brackets – Factor a number and a letter

1. State whether each is true or false.

The highest common factor of,

a) $6a$ and $2a$ is $3a$

b) $2b^2$ and $6b$ is b

c) $6y^2$ and $2y$ is $2y$

2. Ella says that these two expressions cannot be factorised.

$$3a^2 + 7a$$

$$12a^2 + 3$$

Show that she is wrong.

3. Factorise.

a) $2a^2 + 6a$

b) $2a + 6a^2$

c) $5a^2 + 5a$

d) $5y^2 + 10y$

e) $10c^2 - 5c$

f) $10c^2 - 15c$

g) $15a - 10a^2$

h) $-25a + 10a^2$



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4. Find the missing values.

a) $\square a^2 + 6a = 3a(a + \square)$

b) $\square a - 16a^2 = 8a(\square - a)$

5. If $t = 3$ which of these expressions will be positive?

$$t^2 - 5t$$

$$2t(1 - t)$$

$$2t(6 - 2t)$$

$$12t - 4t^2$$

6. Match the expressions that are equivalent.

$$7a + 7a^2$$

$$2a(-1 - a)$$

$$2a^2 - 4a$$

$$7a(a + 1)$$

$$-2a^2 - 2a$$

$$-2a(-a + 2)$$

7. Show the expression $3a(4a + 2)$ has not been fully factorised?

8. Divide $5a(4a + 7)$ by five



Answers



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1. State whether each is true or false.

The highest common factor of,

a) $6a$ and $2a$ is $3a$ **F**

b) $2b^2$ and $6b$ is b **F**

c) $6y^2$ and $2y$ is $2y$ **T**

2. Ella says that these two expressions cannot be factorised.

$$3a^2 + 7a$$

$$a(3a + 7)$$

$$12a^2 + 3$$

$$3(4a^2 + 1)$$

Show she is wrong.

3. Factorise.

a) $2a^2 + 6a$

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

b) $2a + 6a^2$

$$= 2a(1 + 3a)$$

c) $5a^2 + 5a$

$$= 5a(a + 1)$$

d) $5y^2 + 10y$

$$= 5y(y + 2)$$

e) $10c^2 - 5c$

$$= 5c(2c - 1)$$

f) $10c^2 - 15c$

$$= 5c(2c - 3)$$

g) $15a - 10a^2$

$$= 5a(3 - 2a)$$

h) $-25a + 10a^2$

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



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4. Find the missing values:

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

b) $8a - 16a^2 = 8a(1 - 2a)$

5. If $t = 3$ which of these expressions will be negative?

$$t^2 - 5t$$

$$= -6$$

$$2t(1 - t)$$

$$= -12$$

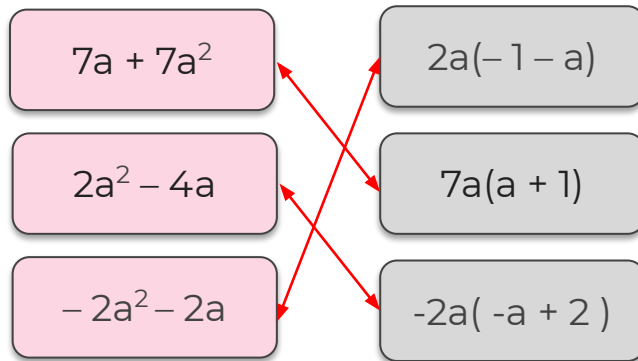
$$2t(6 - 2t)$$

$$= 0$$

$$12t - 4t^2$$

$$= 0$$

6. Match the expressions that are equivalent.



7. Show the expression $3a(4a + 2)$ has not been fully factorised? $6a(2a + 1)$

8. Divide $5(4a + 7)$ by five $a(4a + 7)$

