

# Factorising single brackets (more complicated expressions)



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1. Complete the table

	Highest common Factor
2yg and 3y	y
2yg and 3yg	
2ab <sup>2</sup> and b <sup>2</sup>	

2. True or False?

a)  $2ab + a = a(2b + 1)$

b)  $2b + ab = b(2 + ab)$

c)  $5ab - 10a = 5a(b + 2)$

3. Factorise these expressions.

a)  $2ab + a^2$

b)  $2b + a^2b$

c)  $2ab + a^2b$

d)  $2a^2b + ab$

e)  $2ab + 4a^2$

f)  $3a - 6a^2b$

g)  $5ab - 15a^2b$

h)  $10a^2b + 15ab^2$

4. Factorise these expressions.

a)  $a^3 + 3a$

b)  $a^5 - 3a^2$



# Factorising single brackets (more complicated expressions)

5. Find the missing values.

a)  $\square a^5 + 6 a^3 = 3a^3( a^2 + \square )$

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

6. Amir has factorised the expression

$$24x^2y + 18xy$$

$$2xy(12x + 10)$$

Can you spot his mistake?

7. Match the expressions that are equivalent.

$$ab^3 - a^2b^3$$

$$2a^3 - 4a^2b$$

$$4a^5b + 2a^7$$

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

$$-ab^3(a - 1)$$

$$-2a^2(-a + 2b)$$

8. The expression  $2a^2$  has 6 factors.

$$\square \square 2 \square \square \square 2a^2$$

Can you find them all?



# Answers



# Factorising single brackets (more complicated expressions)

1. Complete the table

	Highest common Factor
2yg and 3y	y
2yg and 3yg	yg
2ab <sup>2</sup> and b <sup>2</sup>	b <sup>2</sup>

2. True or False

- a)  $2ab + a = a(2b + 1)$  **T**
- b)  $2b + ab = b(2 + ab)$  **F**
- c)  $5ab - 10a = 5a(b + 2)$  **F**

3. Factorise these expressions

- a)  $2ab + a^2$   **$a(2b + a)$**  b)  $2b + a^2b$   **$b(2 + a^2)$**
- c)  $2ab + a^2b$   **$ab(2 + a)$**  d)  $2a^2b + ab$   **$ab(2a + 1)$**
- e)  $2ab + 4a^2$   **$2a(b + 2a)$**  f)  $3b - 6a^2b$   **$3b(1 - 2a^2)$**
- g)  $5ab - 15a^2b$   **$5ab(1 - 3a)$**  h)  $10a^2b + 15ab^2$   **$5ab(2a + 3b)$**

4. Factorise these expressions

- a)  $a^3 + 3a$   **$a(a^2 + 3)$**  b)  $a^5 - 3a^2$   **$a^2(a^3 - 3)$**
- c)  $12a^5 + 3a^3$   **$3a^2(4a^3 + a)$**  d)  $9a^2 - 6a^5$   **$3a^2(3 - 2a^3)$**



# Factorising single brackets (more complicated expressions)

5. Find the missing values:

a)  $3a^5 + 6a^3 = 3a^3 (a^2 + 2)$

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

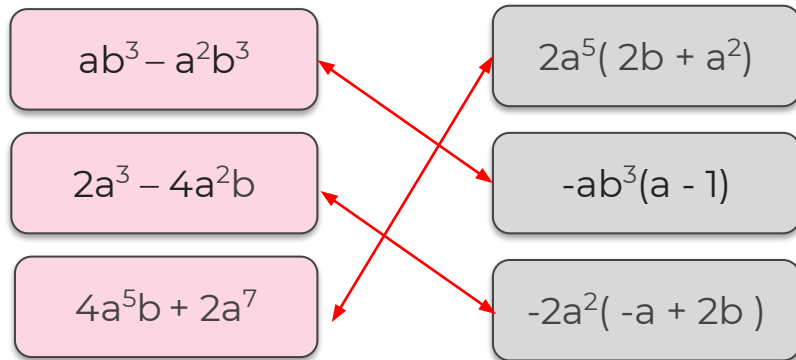
6. Amir has factorised the expression

$$24x^2y + 18xy$$

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Can you spot his mistake?

7. Match the expressions that are equivalent.



8. The expression  $2a^2$  has 6 factors.



Can you find them all?

