



MATHS WHITE BOARD REVISION MAT

4★ Collecting two or more variables

Simplify the following expression:

$$\begin{aligned} & 5e + 5c - 2e + 4c \\ & = 5e - 2e + 5c + 4c \\ & = 3e + 9c \end{aligned}$$

3★ Substitute negative values into an expression

If $a = 2$ and $b = 3$, find the value of

$$\begin{aligned} & 7a + 5b \\ & 7 \times a + 5 \times b \\ & 7 \times 2 + 5 \times 3 \\ & = 14 + 15 \\ & = 29 \end{aligned}$$

1★ Write down all the factors of a number

Write down all of the factors of 30.

$$\begin{array}{l} 1 \times 30 \\ 2 \times 15 \\ 3 \times 10 \\ 5 \times 6 \end{array}$$

1, 2, 3, 5, 6, 10, 15, 30

3★ Show the sixth term is ...

Here are the first 3 terms of an arithmetic sequence:

$$e, e + 2f, e + 4f$$

Show that the 6th term is:

$$e + 10f$$

$$\begin{aligned} 4^{\text{th}} \text{ term} &= e + 4f + 2f = e + 6f \\ 5^{\text{th}} \text{ term} &= e + 6f + 2f = e + 8f \\ 6^{\text{th}} \text{ term} &= e + 8f + 2f = e + 10f \checkmark \end{aligned}$$

3★ Mixed number of an amount

Find $2\frac{3}{7}$ of 70

$$2\frac{3}{7} = \frac{17}{7}$$

$$\begin{aligned} \frac{17}{7} \text{ of } 70 &= 70 \div 7 \times 17 \\ &= 10 \times 17 \\ &= 170 \end{aligned}$$

5★ Linear equation involving brackets

Solve

$$7(x + 4) = 70$$

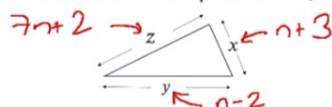
$$7x + 28 = 70$$

$$7x = 42$$

$$x = 6$$

6★ Create a formula to represent the perimeter of a shape

In the following shape, if $x = n + 3$, $y = n - 2$ and $z = 7n + 2$, write a formula for the perimeter, P.



$$P = x + y + z$$

$$= n + 3 + n - 2 + 7n + 2$$

$$P = 9n + 3$$

3★ Mixture of 1st and 2nd index law

Simplify:

$$\frac{6^7 \times 6^4}{6^{-3}}$$

$$= \frac{6^{7+4}}{6^{-3}} = \frac{6^{11}}{6^{-3}}$$

$$= 6^{11} \div 6^{-3} = 6^{11-(-3)} = 6^{14}$$

4★ Multiplying numbers written in standard form

Calculate:

$$(1 \times 10^4) \times (3 \times 10^9)$$

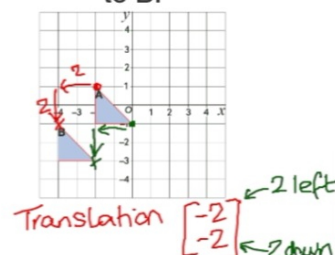
Using the commutative law

$$1 \times 3 \times 10^4 \times 10^9$$

$$\begin{aligned} & = 3 \times 10^{4+9} \\ & = 3 \times 10^{13} \end{aligned}$$

5★ Describing any vector translation

Describe the transformation of A to B:



4★ 3rd index law - power of power

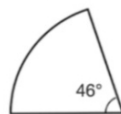
Simplify:

$$(6^5)^{-2}$$

$$\begin{aligned} & = 6^{5 \times -2} \\ & = 6^{-10} \end{aligned}$$

5★ Calculate the area of a sector

Find the area to 1dp.



$$r = 31 \text{ cm}$$

$$A = \frac{46}{360} \times \pi \times 31^2$$

$$= \frac{22103}{180} \pi \text{ cm}^2 \approx 385.8 \text{ cm}^2$$

1★ Conversion between units of length, mass and volume

Convert 30kg into g.

$$\begin{aligned} 1 \text{ Kg} &: 1000 \text{ g} \\ 30 \text{ Kg} &: 30 \times 1000 \text{ g} = 30000 \text{ g} \end{aligned}$$

3★ Problem solving from a table

Find x if

P(red) = P(blue):

Colour	Red	Blue	Pink
Prob.	x	x	0.5

$$P(R) + P(B) + P(P) = 1$$

$$x + x + 0.5 = 1$$

$$2x + 0.5 = 1$$

$$2x = 0.5$$

$$x = 0.25$$

4★ Calculating change

A shop lists for sale:

$$34p, \text{ £}0.83, \text{ £}0.27$$

If I buy 4 and 4, how much change (in £) do I get from £10?

$$4 \times 0.83 = 3.32$$

$$4 \times 0.34 = 1.36$$

$$10 - 4.68 = \text{£}5.32$$

4★ Collecting two or more variables

Simplify the following expression:

$$4c + 3c - 2a + 3a$$

5★ Linear equation involving brackets

Solve

$$8(x + 4) = 96$$

4★ Multiplying numbers written in standard form

Calculate:

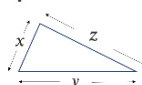
$$(2 \times 10^3) \times (1 \times 10^4)$$

3★ Substitute negative values into an expression

If $a = -3$ and $b = -3$, find the value of $3a + 5b$

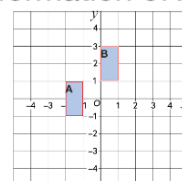
6★ Create a formula to represent the perimeter of a shape

In the following shape, if $x = n + 8$, $y = n - 4$ and $z = 8n + 4$, write a formula for the perimeter, P .



5★ Describing any vector translation

Describe the transformation of A to B:



1★ Write down all the factors of a number

Write down all of the factors of 55.

3★ Mixture of 1st and 2nd index law

Simplify:

$$\frac{9^7 \times 9^{10}}{9^8}$$

4★ 3rd index law - power of power

Simplify:

$$(5^{-8})^7$$

3★ Show the sixth term is ...

Here are the first 3 terms of an arithmetic sequence:

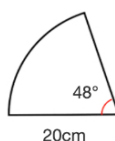
$$2c, 2c + d, 2c + 2d$$

Show that the 6th term is:

$$2c + 5d$$

5★ Calculate the area of a sector

Find the area to 1dp.



1★ Conversion between units of length, mass and volume

Convert 50l into cl.

3★ Mixed number of an amount

Find $5\frac{5}{7}$ of 98

3★ Problem solving from a table

Find x if

$$P(\text{red}) = P(\text{blue}):$$

Colour	Red	Blue	Pink
Prob.	x	x	0.6

4★ Calculating change

A shop lists for sale:

🍒 60p, 🍓 80p, 🥥 £0.93

If I buy 2 🍒 and 5 🍓, how much change (in £) do I get from £10?

ANSWER 1

$$7c + a$$

ANSWER 2

$$x = 8$$

ANSWER 3

$$2 \times 10^7$$

ANSWER 4

$$-24$$

ANSWER 5

$$P = 10n + 8$$

ANSWER 6

Translation by

$$\begin{bmatrix} 2 \\ 2 \end{bmatrix}$$

ANSWER 7

$$1, 5, 11, 55$$

ANSWER 8

$$9^9$$

ANSWER 9

$$5^{-56}$$

ANSWER 10

$$2c + 5d$$

ANSWER 11

$$167.6\text{cm}^2$$

ANSWER 12

$$5000\text{cl}$$

ANSWER 13

$$560$$

ANSWER 14

$$0.2$$

ANSWER 15

$$£4.80$$