Quick Wits

Higher 6

Surds

Simplify

1) $\sqrt{72}$

2) $\sqrt{18}$

3) $3\sqrt{8} + 4\sqrt{2}$

Fractions

1) $\frac{1}{3} + \frac{1}{5}$

2) $2\frac{3}{7} + \frac{3}{4}$

Venn Diagrams

$\varepsilon = \{1,2,3,4,5,6,7,8,9\}$
$A = \{Multiples\ of\ 3\}$
$A \cap B = \{3,9\}$
$A \cup B = \{1,3,5,6,9\}$

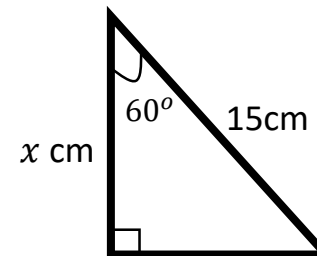Draw a Venn diagram to represent this information.

Standard Form

1) Write 0.004 in standard form.

2) Express 2.54×10^5 as an ordinary number.

Change the Subject

Make x the subject
$$hx + y = yx + h$$

Trigonometry

Calculate the value of $\cos(60)$. Circle the correct answer.

1 $\quad\quad$ 0 $\quad\quad$ $\frac{\sqrt{2}}{2}$

$\frac{\sqrt{3}}{2}$ $\quad\quad$ $\frac{1}{2}$

Find the missing length.

x cm, 60°, 15cm

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Quick Wits

Higher 6

Surds

Simplify

1) $\sqrt{72} = \sqrt{36 \times 2} = 6\sqrt{2}$

2) $\sqrt{18} = \sqrt{9 \times 2} = 3\sqrt{2}$

3) $3\sqrt{8} + 4\sqrt{2}$
$= 3\sqrt{4 \times 2} + 4\sqrt{2}$
$= 6\sqrt{2} + 4\sqrt{2} = 10\sqrt{2}$

Fractions

1) $\frac{1}{3} + \frac{1}{5} = \frac{5+3}{15} = \frac{8}{15}$

2) $2\frac{3}{7} + \frac{3}{4} = \frac{17}{7} + \frac{3}{4}$
$= \frac{68 + 21}{28} = \frac{89}{28} = 3\frac{5}{28}$

Venn Diagrams

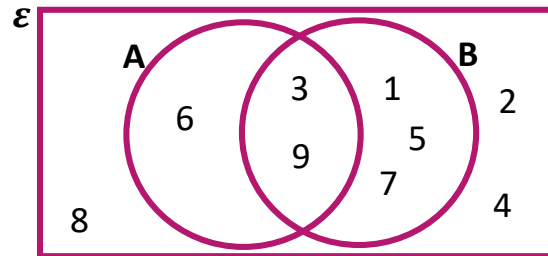$\varepsilon = \{1,2,3,4,5,6,7,8,9\}$
$A = \{Multiples\ of\ 3\}$
$A \cap B = \{3,9\}$
$A \cup B = \{1,3,5,6,9\}$

Draw a Venn diagram to represent this information.

Standard Form

1) Write 0.004 in standard form.
$$4 \times 10^{-3}$$

2) Express 2.54×10^5 as an ordinary number.
$$254\ 000$$

Change the Subject

Make x the subject
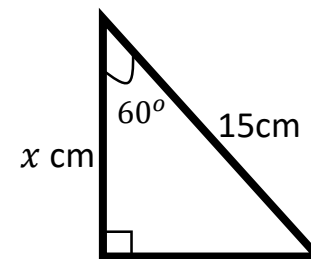$$hx + y = yx + h$$
$$hx - yx = h - y$$
$$x(h - y) = h - y$$
$$x = \frac{h - y}{h - y} = 1$$

Trigonometry

Calculate the value of $\cos(60)$. Circle the correct answer.

1 0 $\frac{\sqrt{2}}{2}$

$\frac{\sqrt{3}}{2}$ $\boxed{\frac{1}{2}}$

Find the missing length.

$$\cos(60) = \frac{x}{15}$$
$$x = 15 \times \cos(60)$$
$$x = 15 \times \frac{1}{2}$$
$$x = 7.5\ cm$$

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