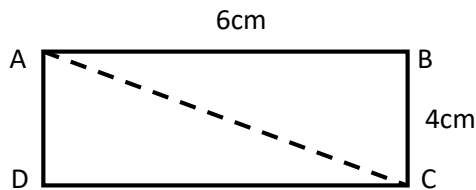


## National 5 Homework

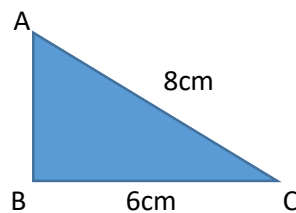
## Numerical Skills

## Working With Surds

- Express  $\sqrt{18} + 2\sqrt{2} - \sqrt{8}$ , leaving your answer as a surd in its simplest form.
- Rationalise the denominator:  $\frac{3}{\sqrt{8}}$
- Expand and fully simplify  $\sqrt{6}(\sqrt{2} - \sqrt{6})$ .
- Find the length of the diagonal AC of the rectangle below, leaving your answer as a surd in its simplest form.



- Simplify  $\sqrt{\frac{9}{45}}$ , leaving your answer as a surd with a rational denominator.
- Simplify  $\sqrt{3} \times 2\sqrt{2} \times 2\sqrt{6}$ .
- Express  $\frac{6}{\sqrt{12}}$  with a rational denominator in its simplest form.
- Simplify  $\frac{\sqrt{3}}{\sqrt{18}}$ , giving your answer with a rational denominator.
- Express  $6\sqrt{10} + 3\sqrt{90} - 8\sqrt{40}$  in its simplest form.
- Find the length of AB below, leaving your answer as a surd in its simplest form.



- Expand and simplify  $\sqrt{5}(2\sqrt{5} + \sqrt{10})$
- Express  $\sqrt{98} + \sqrt{2} - \sqrt{50}$  in the form  $x\sqrt{a}$  and state the values of  $x$  and  $a$ .