

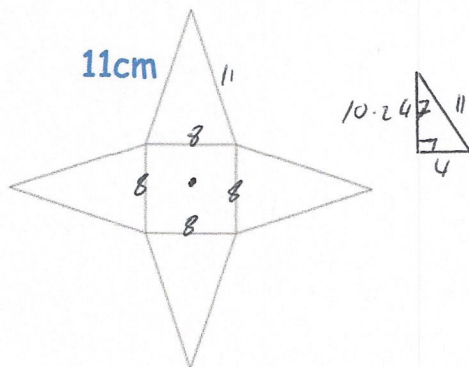


25th October

$c : d : e = 9 : 7 : 2$

Work out $2c + e : 2d$
in its simplest form.

$10 : 7$



Shown is the net of a square based pyramid.

The area of the base is 64cm^2

Calculate the surface area of the pyramid

$$\Delta \frac{1}{2}(4)(10.247)$$

$$20.494\text{cm}^2$$

$$64 + (4 \times 20.494)$$

$$145.9756\text{cm}^2$$

Calculate the volume of the pyramid

$$h = \sqrt{10.247^2 - 4^2} = 9.434\text{cm}$$

$$V = \frac{1}{3}Ah$$

$$= \frac{1}{3} \times 64 \times 9.434$$

$$201.2594\text{cm}^3$$

$f(x) = x^2 + 2x + 1$

Show that $f(x + 2) - f(x) = 4x + 8$

$$(x+2)^2 + 2(x+2) + 1 - (x^2 + 2x + 1)$$

$$x^2 + 4x + 4 + 2x + 4 + 1 - (x^2 + 2x + 1)$$

$$x^2 + 6x + 9 - (x^2 + 2x + 1)$$

$$4x + 8$$

One solution of a quadratic equation in the form

$y = ax^2 + bx + c$

is

$x = \frac{3 + \sqrt{65}}{4}$

$b = -3$
 $a = 2$
 $(-3)^2 - (4 \times 2 \times c) = 65$
 $9 - 8c = 65$

Find possible values of a, b and c.

$a = 2$
 $b = -3$
 $c = -7$

$-8c = 56$
 $c = -7$