

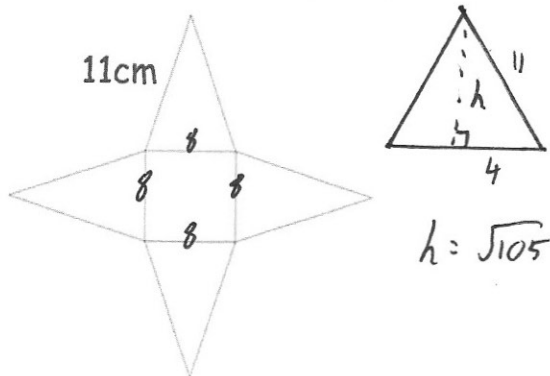


$$c : d : e = 9 : 7 : 2$$

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

$$20 : 14$$

$$10 : 7$$



Calculate the surface area of the pyramid

$$\frac{1}{2} \times 8 \times \sqrt{105} = 4\sqrt{105} \quad (\text{one triangle})$$

$$4 \times 4\sqrt{105} + 64 = 227.95 \text{ cm}^2$$

Shown is the net of a square based pyramid.

The area of the base is 64 cm^2

$$h \text{ of pyramid} = \sqrt{105 - 4^2} \\ = \sqrt{89}$$

Calculate the volume of the pyramid

$$\frac{1}{3} \times 64 \times \sqrt{89}$$

$$= 201.26 \text{ cm}^3$$

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

Show that $f(x+2) = (x+2)^2 + 2(x+2) + 1$
 $= x^2 + 4x + 4 + 2x + 4 + 1$

$$f(x+2) - f(x) = 4x + 8 = x^2 + 6x + 9$$

$$x^2 + 6x + 9 - (x^2 + 2x + 1) = 4x + 8$$

QED

One solution of a quadratic equation in the form

$$y = ax^2 + bx + c$$

is

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

$$a = 2$$

$$b = -3$$

Find possible values of a, b and c.

$$(-3)^2 - (4 \times 2 \times c) = 65$$

$$9 - 8c = 65$$

$$-8c = 56$$

$$c = -7$$