

28th February



Corbettmaths

Write an expression for the perimeter of the rectangle

$$\frac{2(w-1)}{3} + w + 3$$

$$\frac{2w-2}{3} + w + 3 = \frac{2}{3}w - \frac{2}{3} + w + 3$$

$$\frac{w+3}{2} \times 2 = w+3$$

$$\frac{w-1}{3} \times 2$$

$$\frac{2(w-1)}{3}$$

$$\left[\frac{2}{3}w + 2\frac{1}{3} \right]$$

C, D and E are such that

C:D = 1:7

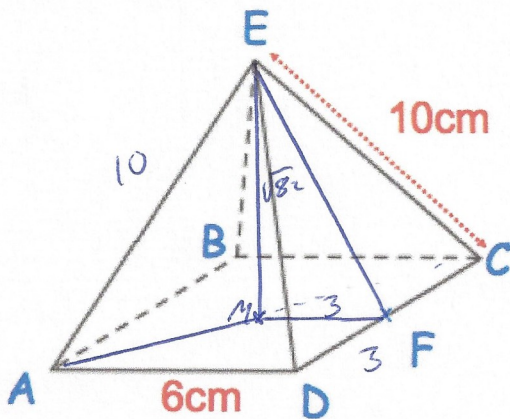
D is $\frac{2}{5}$ of E $\begin{matrix} 0 & E \\ 2 & 5 \end{matrix}$

Work out the ratio of C:E

	C	D	E
$\times 2$	1	7	
		2	5
	2	14	
		14	35

$\times 7$

$$\boxed{2:35}$$



Find the length of EF

$$AC^2 = 6^2 + 6^2 = 36 + 36 = 72$$

$$AC = \sqrt{72} = 6\sqrt{2}$$

$$AM = 3\sqrt{2}$$

$$EM^2 = 10^2 - (3\sqrt{2})^2 = 82$$

$$EM = \sqrt{82}$$

$$EF^2 = (\sqrt{82})^2 + 3^2 = 91$$

$$EF = \sqrt{91} \text{ (9.54cm)}$$

Shown is a square based pyramid, ABCDE.

F is the midpoint of CD

Calculate angle BDE

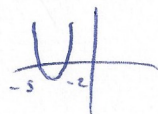
$$\cos x = \frac{A}{H} = \frac{3\sqrt{2}}{10}$$

$$x = \cos^{-1}\left(\frac{3\sqrt{2}}{10}\right) = 64.896^\circ$$

The set of values for x that satisfies a quadratic inequality is

$-5 < x < -2$

Write down a possible quadratic inequality.



~~$$(x+5)(x+2) < 0$$~~

$$x^2 + 7x + 10 < 0$$