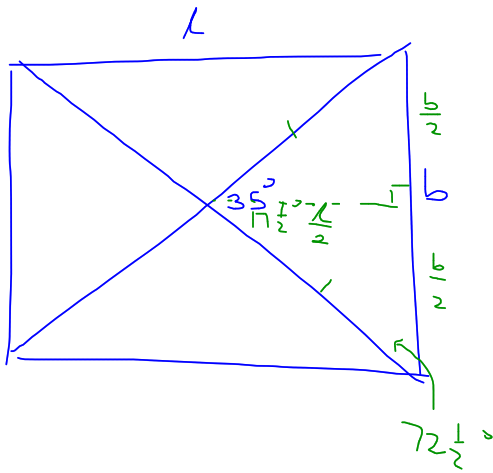


20d)

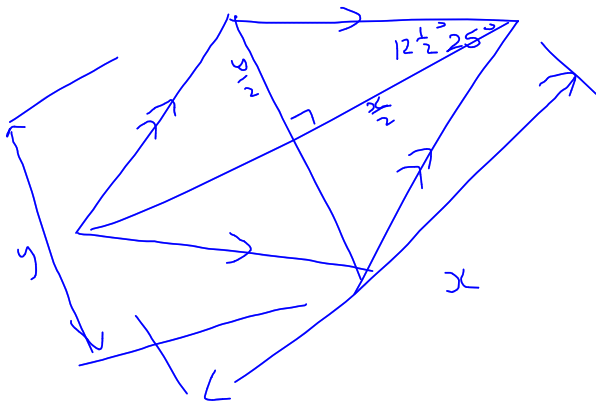


$$\tan 17\frac{1}{2}^\circ = \frac{\frac{b}{2}}{\frac{L}{2}}$$

$$\frac{b}{L} = \tan 17\frac{1}{2}^\circ$$

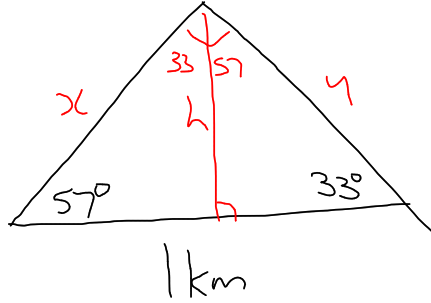
$$\frac{L}{b} = \tan 72\frac{1}{2}^\circ$$

2of,



$$\frac{y}{x} = \tan 12\frac{1}{2}^\circ$$
$$\frac{y}{x} = \tan 12\frac{1}{2}^\circ$$

23/



$$\frac{h}{x} = \sin 57^\circ$$

$$x = \frac{h}{\sin 57^\circ}$$

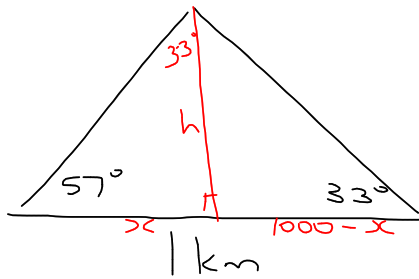
$$y = \frac{h}{\sin 33^\circ}$$

$$x^2 + y^2 = 1$$
$$\frac{h^2}{\sin^2 57^\circ} + \frac{h^2}{\sin^2 33^\circ} = 1$$

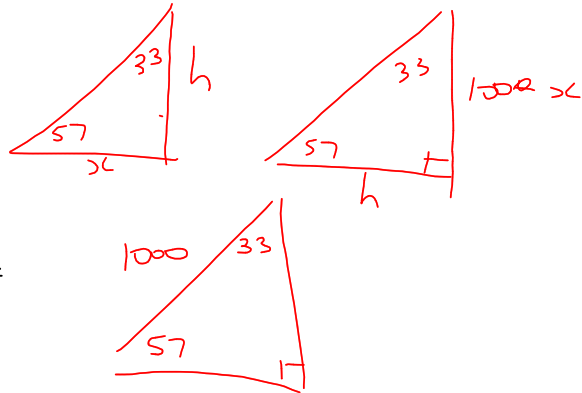
$$h^2 (\sin^2 33^\circ + \sin^2 57^\circ) = \sin^2 57^\circ \sin^2 33^\circ$$
$$h^2 = \frac{\sin^2 57^\circ \sin^2 33^\circ}{(\sin^2 33^\circ + \sin^2 57^\circ)}$$

OR

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$$\frac{x}{h} = \tan 33^\circ$$
$$x = h \tan 33^\circ$$



$$\frac{h}{x} = \frac{1000 - x}{h}$$

$$\frac{h}{h \tan 33^\circ} = \frac{1000 - h \tan 33^\circ}{h}$$

$$\frac{1}{\tan 33^\circ} = \frac{1000}{h} - \tan 33^\circ$$

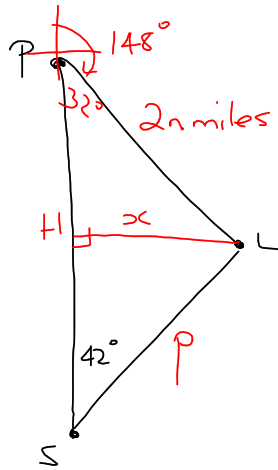
$$\frac{1000}{h} = \tan 33^\circ + \tan 57^\circ$$

$$h = \frac{1000}{\tan 33^\circ + \tan 57^\circ}$$

$$= \underline{\underline{457\text{m}}}$$

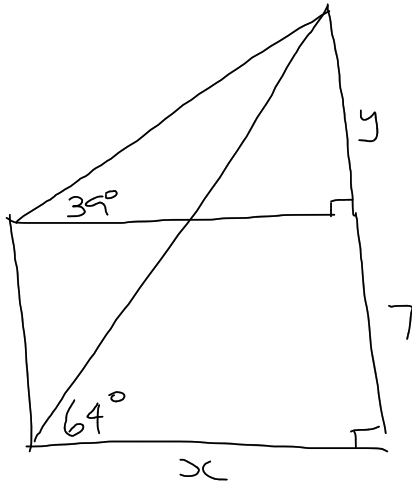
24

$$\frac{x}{2} = \sin 32^\circ$$
$$x = 2 \sin 32^\circ$$



$$\frac{x}{p} = \sin 42^\circ$$
$$p = \frac{x}{\sin 42^\circ}$$
$$= \frac{2 \sin 32^\circ}{\sin 42^\circ}$$

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$$\frac{y}{x} = \tan 39^\circ$$

$$y = x \tan 39^\circ$$

$$\frac{y+7}{x} = \tan 64^\circ$$

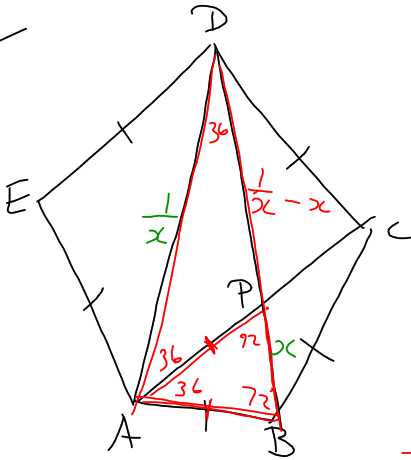
$$y+7 = x \tan 64^\circ$$

$$x \tan 39^\circ + 7 = x \tan 64^\circ$$

$$x (\tan 64^\circ - \tan 39^\circ) = 7$$

$$x = \frac{7}{(\tan 64^\circ - \tan 39^\circ)}$$

26



a) interior $\angle = 108^\circ$

b) $\angle DAB = 72^\circ$

$\angle DAP = \angle BAP = 36^\circ$

c) $AB = AP = DP = 1$

$DA = \frac{1}{x}$

$\frac{1}{x} - x = 1$

$1 - x^2 = x$

$x^2 + x - 1 = 0$

$x = \frac{-1 \pm \sqrt{5}}{2}$

$\therefore x = \frac{-1 + \sqrt{5}}{2}$ $x > 0$

$AD = \frac{2}{-1 + \sqrt{5}} \times \frac{-1 - \sqrt{5}}{-1 - \sqrt{5}}$

$= \frac{-2 - 2\sqrt{5}}{1 - 5}$

$= \frac{2 + 2\sqrt{5}}{4}$

$= \frac{1}{2}(1 + \sqrt{5})$