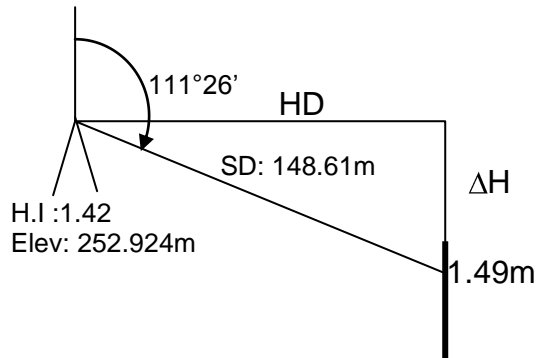


MATHEMATICS

Level Two

Engineering ideas

1.



2. HD

$$= \cos (21^{\circ}26') \times 148.61$$

$$= 138.333\text{m}$$

3. $\Delta H = \sin (21^{\circ}26') \times 148.61$

$$\Delta H = 54.305\text{m}$$

$$252.924 + 1.42 - 54.305 - 1.49$$

$$\text{Elevation} = 198.549\text{m}$$

4. Interior angles A = $55^{\circ}14'$
 B = $102^{\circ}56'$
 C = $122^{\circ}11'$
 D = $79^{\circ}39'$

These add together to make $360^{\circ}00'$

5. a) Interior angle at: A = $65^{\circ}12'00''$
 B = $62^{\circ}50'00''$
 b) Should add to 180° , but adds to $179^{\circ}48'00''$ so a $12'$ error
 c) Three angles $12/3 = 4'$, is added to each angle, so
 A = $65^{\circ}16'00''$
 B = $62^{\circ}54'00''$
 C = $51^{\circ}50'00''$

$$\frac{AB}{\sin(51^{\circ}50')} = \frac{118.279}{\sin(62^{\circ}54')}$$

d) Using the sine rule

$$AB = 104.461\text{m}$$