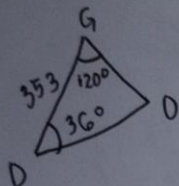


MATH 9: OBLIQUE TRIANGLES ANSWER KEY HANDWRITTEN

ACTIVITY 1:

ACTIVITY 1

(1)



$$\angle G = 120^\circ, \angle D = 36^\circ \quad GD = 353$$

$$\angle O = 180^\circ - 120^\circ - 36^\circ = 24^\circ$$

$$\frac{GD}{\sin 24^\circ} = \frac{GO}{\sin 36^\circ} = \frac{DO}{\sin 120^\circ}$$

$$GO = \frac{GD \times \sin 36^\circ}{\sin 24^\circ} = \frac{353 \times \sin 36^\circ}{\sin 24^\circ} = 510$$

$$DO = \frac{GD \sin 120^\circ}{\sin 24^\circ} = \frac{353 \times \sin 120^\circ}{\sin 24^\circ} = 752$$

$$\frac{GO}{\sin 24^\circ} = \frac{GO}{\sin 36^\circ} = \frac{DO}{\sin 120^\circ}$$

$$\angle O = 24^\circ \quad GO = 510 \quad DO = 752$$

(2)

$$\frac{\sin M}{m} = \frac{\sin S}{s} = \frac{\sin U}{u}$$

Now

$$\frac{\sin M}{m} = \frac{\sin S}{s}$$

$$\frac{\sin 70.2}{s} = \frac{\sin S}{2.46}$$

$$\sin S = \frac{0.99 \times 2.46}{s}$$

$$\sin S = 0.46$$

$$s = \sin^{-1} 0.46$$

$$s = 27.4$$

$$\frac{\sin m}{m} = \frac{\sin u}{u} \Rightarrow \frac{\sin 70.2}{5} = \frac{\sin u}{u}$$

$$\frac{\sin u}{0.188}$$

$$\frac{\sin S}{s} = \frac{\sin u}{u} \Rightarrow u = \frac{\sin u}{0.187}$$

$$\text{angle } u = 180^\circ - 70.2 - 27.4 = 82.4$$

$$u = \frac{\sin 82.4}{0.188} = 5.27$$