

Try every question in this booklet. Show your steps (thinking process) and keep trying until you get the right answer. If you can't figure it out, ASK!

### Section 7.1 – Practice Questions

Make sure your calculator is in **DEGREE MODE!**

1. Using your calculator, find each ratio to 4 decimal places.

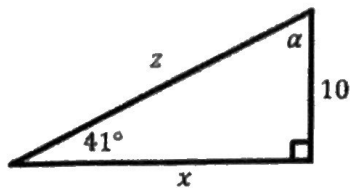
a) $\sin 35^\circ = 0.5736$	b) $\cos 0^\circ = 1$
c) $\tan 81^\circ = 6.3138$	d) $\cos 42^\circ = 0.7431$
e) $\cos 77^\circ = 0.2250$	f) $\tan 9^\circ = 0.1584$
g) $\sin 0^\circ = 0$	h) $\cos 30^\circ = 0.8660$
i) $\tan 0^\circ = 0$	j) $\sin 60^\circ = 0.8660$

2. Using your calculator, find the measure of the angle to 1 decimal place.

a) $\sin \theta = 0.6348$	$\theta = 39.4^\circ$	b) $\cos \theta = 0.6348$	$\theta = 50.6^\circ$
c) $\tan \theta = 4.276$	$\theta = 76.8^\circ$	d) $\sin \theta = 0.3521$	$\theta = 20.6^\circ$
e) $\sin \theta = 0.1496$	$\theta = 8.6^\circ$	f) $\tan \theta = 0$	$\theta = 0^\circ$
g) $\tan \theta = 1$	$\theta = 45^\circ$	h) $\sin \theta = 0$	$\theta = 0^\circ$
i) $\cos \theta = 1$	$\theta = 0^\circ$	j) $\cos \theta = 0$	$\theta = 90^\circ$

3. Solve the following triangles to 1 decimal place.

a)



$$z = 15.2$$

$$x = 11.5$$

$$\alpha = 49^\circ$$

$$\alpha = 180 - 90 - 41$$

$$\alpha = 49^\circ$$

$$\tan 41^\circ = \frac{10}{x}$$

$$x = \frac{10}{\tan 41^\circ}$$

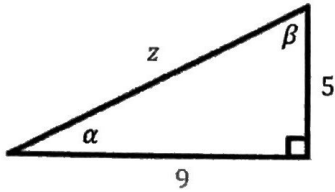
$$x = 11.5$$

$$\sin 41^\circ = \frac{10}{z}$$

$$z = \frac{10}{\sin 41^\circ}$$

$$z = 15.2$$

b)



$$z = \sqrt{106} = 10.3$$

$$\beta = 60.9^\circ$$

$$\alpha = 29.1^\circ$$

$$z^2 = 5^2 + 9^2$$

$$z^2 = 25 + 81$$

$$z^2 = 106$$

$$z = \sqrt{106}$$

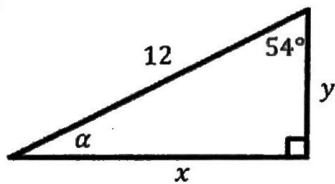
$$\tan \alpha = \frac{5}{9} \quad \alpha = \tan^{-1} \frac{5}{9}$$

$$\alpha = 29.1$$

$$\beta = 90 - 29.1$$

$$\beta = 60.9$$

c)



$$y = 7.1$$

$$x = 9.7$$

$$\alpha = 36^\circ$$

$$\cos 54^\circ = \frac{y}{12}$$

$$12 \cos 54 = y$$

$$y = 7.1$$

$$\sin 54^\circ = \frac{x}{12}$$

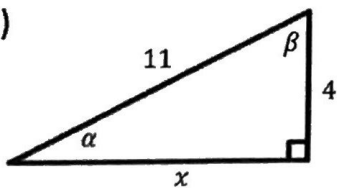
$$12 \sin 54 = x$$

$$x = 9.7$$

$$\alpha = 90 - 54$$

$$\alpha = 36^\circ$$

d)



$$\beta = 68.7^\circ$$

$$x = \sqrt{105} = 10.2$$

$$\alpha = 21.3^\circ$$

$$11^2 - 4^2 = x^2$$

$$121 - 16 = x^2$$

$$105 = x^2$$

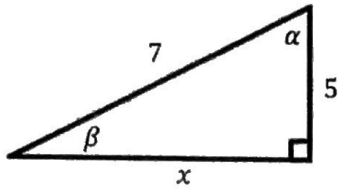
$$\sqrt{105} = x$$

$$\sin \alpha = \frac{4}{11}$$

$$\alpha = \sin^{-1} \frac{4}{11}$$

$$\alpha = 21.3$$

e)



$$7^2 - 5^2 = x^2$$

$$49 - 25 = x^2$$

$$24 = x^2$$

$$\sin B = \frac{5}{7}$$

$$B = \sin^{-1} \frac{5}{7}$$

$$B = 45.6$$

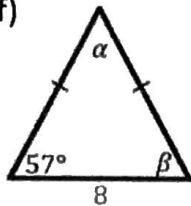
$$\beta = 45.6^\circ$$

$$x = \sqrt{24} = 4.9$$

$$\alpha = 44.4$$

$$\sqrt{24} = x$$

f)



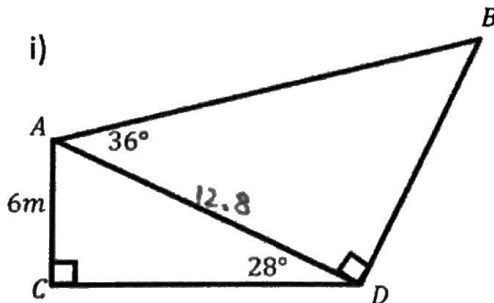
Isosceles so  $\beta = 57^\circ$  too

$$\alpha = 66^\circ$$

$$\beta = 57^\circ$$

4. Find the length of AB

i)



$$AB = 15.8$$

$$\sin 28 = \frac{6}{AD}$$

$$\cos 36^\circ = \frac{12.8}{AB}$$

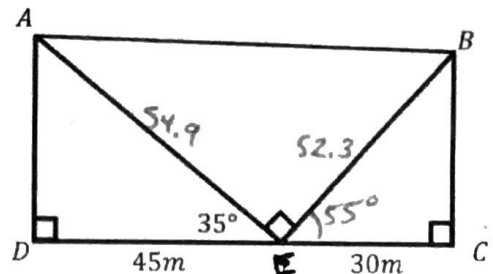
$$AD = \frac{6}{\sin 28}$$

$$AB = \frac{12.8}{\cos 36}$$

$$AD = 12.8$$

$$AB = 15.8$$

ii)



$$AB = 75.8$$

$$180 - 90 - 35$$

$$= 55$$

$$\cos 35 = \frac{45}{AE}$$

$$\cos 55 = \frac{30}{BE}$$

$$AE = 54.9$$

$$BE = 52.3$$

$$AB^2 = 54.9^2 + 52.3^2$$

$$AB = 75.8$$