

Trigonometry Worksheet 1

Keep two decimal places when it is applicable.

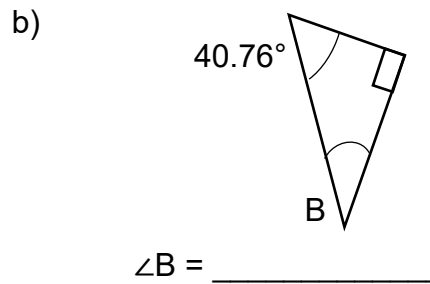
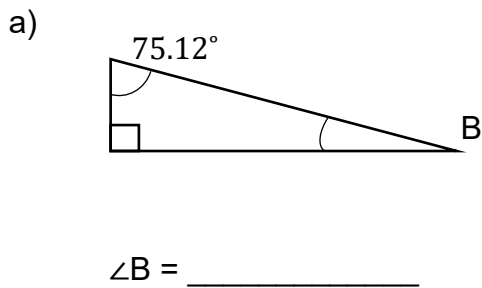
1. Find the sin, cos or tan value of each angle.

a) $\sin 30^\circ =$ _____ b) $\cos 45^\circ =$ _____ c) $\sin 55^\circ =$ _____ d) $\tan 67^\circ =$ _____

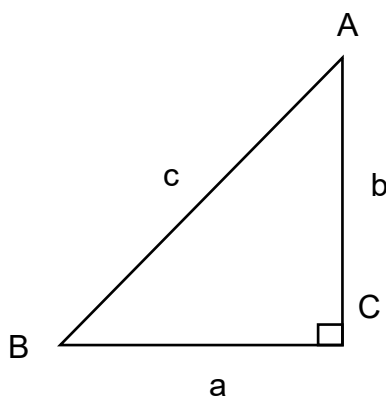
2. Find the angle for each sin, cos and tan value.

a) $\sin \theta = 0.219$ b) $\cos \theta = 0.122$ c) $\sin \theta = 0.857$ d) $\tan \theta = 2.53$
 $\theta =$ _____ $\theta =$ _____ $\theta =$ _____ $\theta =$ _____

3. What is the value of angle B for each triangle



4. Find the adjacent, opposite and hypotenuse sides.



For angle $\angle A$:

Adjacent side: _____

Opposite side: _____

Hypotenuse: _____

For angle $\angle B$:

Adjacent side: _____

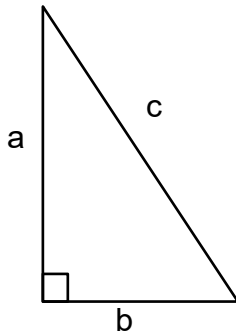
Opposite side: _____

Hypotenuse: _____

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5. Pythagorean Theorem

I.



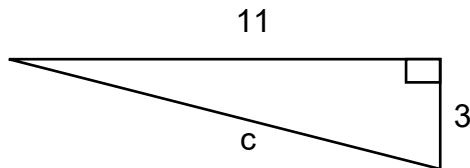
$$c^2 = \underline{\hspace{2cm}}$$

$$a^2 = \underline{\hspace{2cm}}$$

$$c = \underline{\hspace{2cm}}$$

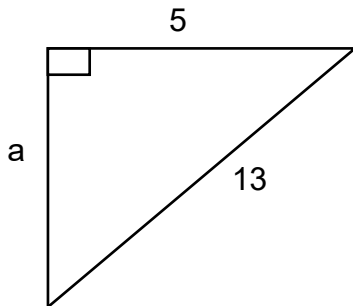
$$a = \underline{\hspace{2cm}}$$

II.



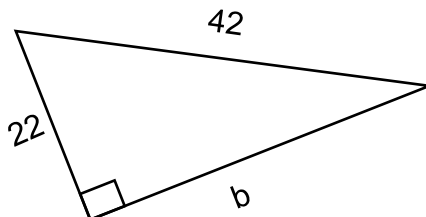
What is the length of c ?

III.



What is the length of a ?

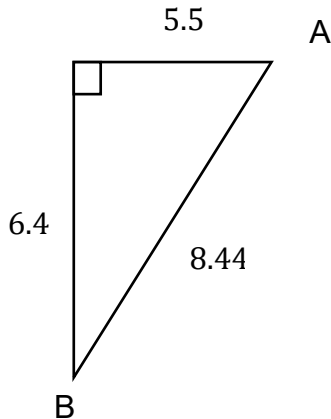
IV.



What is the length of b ?

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6. Find the sin, cos and tan value, then the angles



$$\angle A = \sin^{-1}(\underline{\hspace{2cm}})$$

$$\angle B = \sin^{-1}(\underline{\hspace{2cm}})$$

$$= \underline{\hspace{2cm}}$$

$$= \underline{\hspace{2cm}}$$

$$\angle A = \cos^{-1}(\underline{\hspace{2cm}})$$

$$\angle B = \cos^{-1}(\underline{\hspace{2cm}})$$

$$= \underline{\hspace{2cm}}$$

$$= \underline{\hspace{2cm}}$$

$$\angle A = \tan^{-1}(\underline{\hspace{2cm}})$$

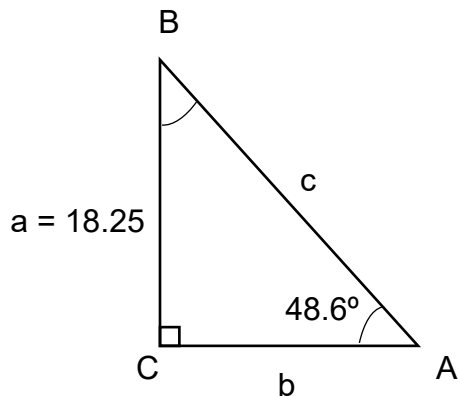
$$\angle B = \tan^{-1}(\underline{\hspace{2cm}})$$

$$= \underline{\hspace{2cm}}$$

$$= \underline{\hspace{2cm}}$$

7. Find the missing pieces as indicated

I.

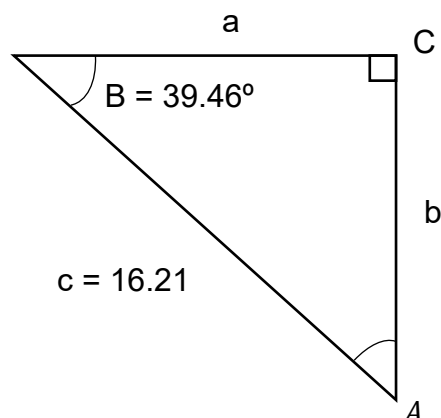


$$\angle B = \underline{\hspace{2cm}}$$

$$b = \underline{\hspace{2cm}}$$

$$c = \underline{\hspace{2cm}}$$

II.



$$\angle A = \underline{\hspace{2cm}}$$

$$a = \underline{\hspace{2cm}}$$

$$b = \underline{\hspace{2cm}}$$

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Answer Key:

1.	a) =0.5	b) =0.707	c) =0.819	d) =2.356
2.	a) $\theta=12.65^\circ$	b) $\theta=82.99^\circ$	c) $\theta=58.98^\circ$	d) $\theta=68.43^\circ$
3.	a) $\angle B=14.88^\circ$	b) $\angle B=49.24^\circ$		
4.	For angle $\angle A$ Adjacent side: b Opposite side: a Hypotenuse: c	For angle $\angle B$ Adjacent side: b Opposite side: a Hypotenuse: c		
5.	I. $c^2 = a^2 + b^2$ $c = \sqrt{a^2 + b^2}$ $a^2 = c^2 - b^2$ $a = \sqrt{c^2 - b^2}$	II. $c=11.40$	III. $a=12$	IV. $b=35.78$
6.	$\angle A = \sin^{-1}\left(\frac{6.4}{8.44}\right) = 49.31^\circ$ $\angle A = \cos^{-1}\left(\frac{5.5}{8.44}\right) = 49.33^\circ$ $\angle A = \tan^{-1}\left(\frac{6.4}{5.5}\right) = 49.33^\circ$	$\angle B = \sin^{-1}\left(\frac{5.5}{8.44}\right) = 40.67^\circ$ $\angle B = \cos^{-1}\left(\frac{6.4}{8.44}\right) = 40.69^\circ$ $\angle B = \tan^{-1}\left(\frac{5.5}{6.4}\right) = 40.67^\circ$		
7.	I. $\angle B = 41.4^\circ$ $b = 16.09$ $c = 24.33$	II. $\angle A = 50.54^\circ$ $a = 12.52$ $b = 10.30$		