

# Fill in the Blanks Finding Lengths Using Trigonometry

Labelled diagram	Choose ratio	Substitute into formula	Rearrange formula	Answer (1dp)
<p>A right-angled triangle with a hypotenuse of 11 cm and an angle of 38°. The side opposite to the angle is labeled x.</p>	sin	$\sin 38 = \frac{x}{11}$	$x = 11 \times \sin 38$	6.8 cm
<p>A right-angled triangle with an adjacent side of 6 cm and an angle of 51°. The side opposite to the angle is labeled x.</p>	tan	$\tan 51 = \frac{x}{6}$	$x = 6 \times \tan 51$	7.4 cm
<p>A right-angled triangle with a hypotenuse of 37 mm and an angle of 63°. The side adjacent to the angle is labeled x.</p>	cos	$\cos 63 = \frac{x}{37}$	$x = 37 \times \cos 63$	16.8 mm
<p>A right-angled triangle with an adjacent side of 8 cm and an angle of 28°. The hypotenuse is labeled x.</p>	cos	$\cos 28 = \frac{8}{x}$	$x = \frac{8}{\cos 28}$	9.1 cm
<p>A right-angled triangle with a hypotenuse of 2.5 m and an angle of 71°. The side opposite to the angle is labeled x.</p>	tan	$\tan 71 = \frac{2.5}{x}$	$x = \frac{2.5}{\tan 71}$	0.86 m
<p>A right-angled triangle with a hypotenuse of 13 cm and an angle of 49°. The side opposite to the angle is labeled x.</p>	sin	$\sin 49 = \frac{13}{x}$	$x = \frac{13}{\sin 49}$	17.2 cm
<p>A right-angled triangle with a hypotenuse of 5.7 cm and an angle of 35°. The side adjacent to the angle is labeled x.</p>	cos	$\cos 35 = \frac{x}{5.7}$	$x = 5.7 \times \cos 35$	4.7 cm
<p>A right-angled triangle with an adjacent side of 7 cm and an angle of 68°. The side opposite to the angle is labeled x.</p>	tan	$\tan 68 = \frac{7}{x}$	$x = \frac{7}{\tan 68}$	2.8 cm