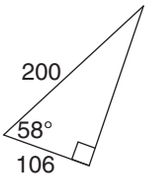
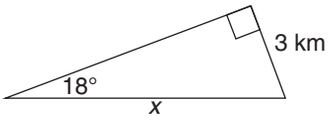
Check Up

1. State the primary trigonometric relationship represented in each diagram.

a. 

b. 

2. Sketch a triangle that represents each of the following.

a. $\sin 30° = \frac{1}{2}$

b. $\cos \theta = \frac{8}{17}$

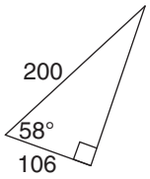
c. $\sin a = \frac{p}{q}$

d. $\cos t = 0.75$

Compare your answers.

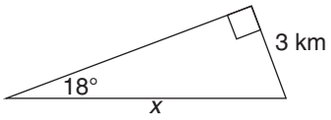
1. State the primary trigonometric relationship represented in each diagram.

a.



$$\cos 58° = \frac{106}{200}$$

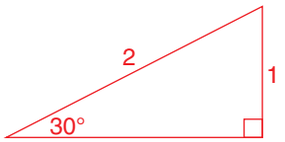
b.



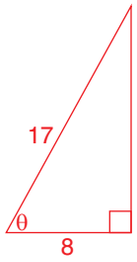
$$\sin 18° = \frac{3\text{ km}}{x}$$

2. Sketch a triangle that represents each of the following.

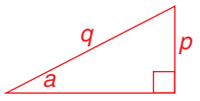
a. $\sin 30° = \frac{1}{2}$



b. $\cos \theta = \frac{8}{17}$

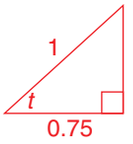


c. $\sin a = \frac{p}{q}$



d. $\cos t = 0.75$

Diagrams will vary. The length adjacent to t must be 0.75 times the size of the hypotenuse.



In *Lesson 3.1*, you saw that a table of tangent ratios could be made and used to determine unknowns. The following table shows the tangent, sine, and cosine ratios for various angles. All values are approximate.

θ	tan θ	sin θ	cos θ
5°	0.09	0.09	0.996
10°	0.18	0.17	0.98
15°	0.27	0.26	0.97
20°	0.36	0.34	0.94
25°	0.47	0.42	0.91
30°	0.58	0.5	0.87
35°	0.70	0.57	0.82
40°	0.84	0.64	0.77
45°	1	0.71	0.71
50°	1.19	0.77	0.64
55°	1.43	0.82	0.57
60°	1.73	0.87	0.5
65°	2.14	0.91	0.42
70°	2.75	0.94	0.34
75°	3.73	0.97	0.26
80°	5.67	0.98	0.17
85°	11.43	0.996	0.09

Again, use of the table is limited to problems involving the angles and ratios listed. Alternatively, the sin, $\sin^{-1}$, cos, $\cos^{-1}$, tan, and $\tan^{-1}$ functions on a calculator can be used with any ratio or angle.