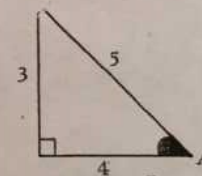
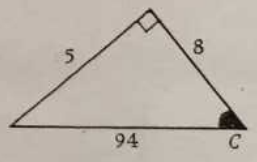
xercise Primary Trig Ratios

1. State the sine, cosine, and tangent of each marked angle.

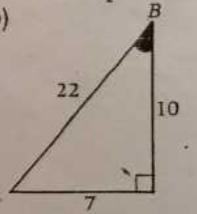
(a)



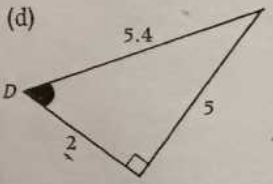
(c)



(b)



(d)



2. Use the table on page 459 to state the required values.

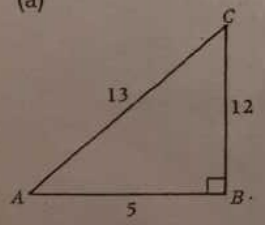
(a) sin 42° (d) cos 24°
(b) cos 53° (e) sin 75°
(c) tan 22° (f) tan 60°

3. Use the table on page 459 to determine the value of angle A.

(a) $\sin A = 0.208$ (d) $\cos A = 0.276$
(b) $\cos A = 0.899$ (e) $\sin A = 0.857$
(c) $\tan A = 1.376$ (f) $\tan A = 0.105$

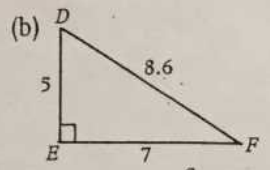
4. State the missing trigonometric ratio for each triangle.

(a)



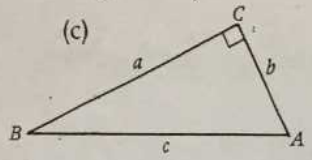
$\frac{12}{13} = \blacksquare A$
$\frac{5}{12} = \blacksquare C$

(b)



$\frac{5}{8.6} = \blacksquare D$
$\frac{5}{8.6} = \blacksquare F$

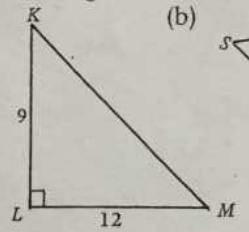
(c)



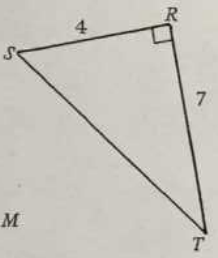
$\frac{a}{b} = \blacksquare A$
$\frac{b}{c} = \blacksquare A$
$\frac{a}{c} = \blacksquare A$
$\frac{b}{a} = \blacksquare B$

B **5.** Calculate the length of the hypotenuse in each case, then find the 3 basic trigonometric ratios for both acute angles in each triangle.

(a)

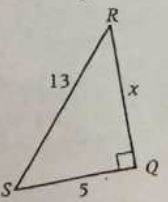


(b)

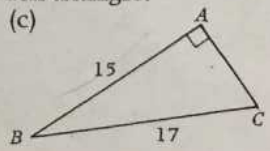


6. Calculate the length of x in each case, then find the 3 basic trigonometric ratios for both angles in each triangle.

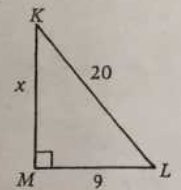
(a)



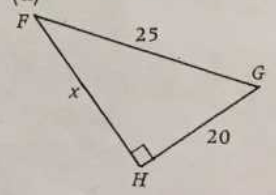
(c)



(b)



(d)



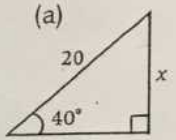
7. Determine y in each of the following, correct to one decimal place.

(a) $\frac{y}{15} = \cos 30°$ (c) $\frac{y}{20} = \sin 65°$

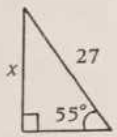
(b) $\frac{y}{12}$ cos 76° d) $\frac{y}{23} = \sin 22°$

8. Use the sine ratio to find the value of x in each of the following.

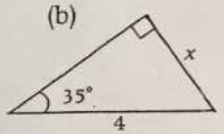
(a)



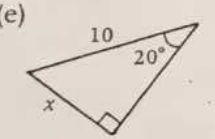
(d)



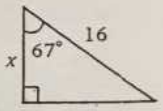
(b)



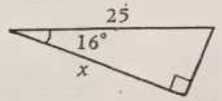
(e)



(c)

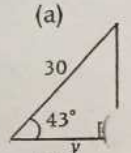


(f)

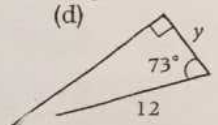


9. Use the cosine ratio to find the value of y in each of the following.

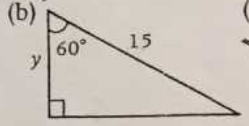
(a)



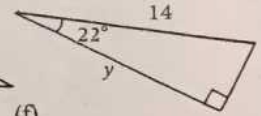
(d)



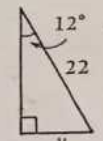
(b)



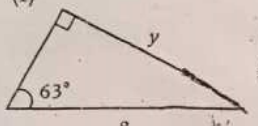
(e)



(c)



(f)

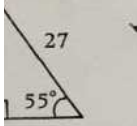


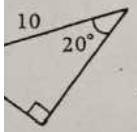
following,
e.

= sin 65°

= sin 22°

ıe value of x in





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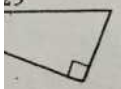
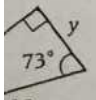
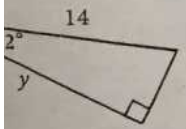
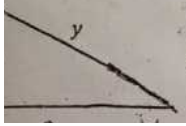


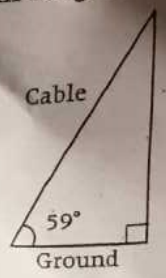
l the value of y



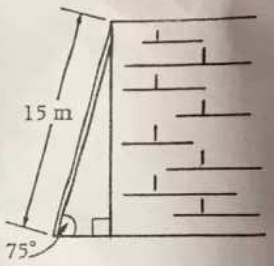




10. A support cable 40 m long runs straigh from the top of a tower to the ground. The cable makes an angle of 59° with the ground. Calculate the height of the tower.

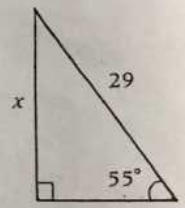


11. How far from a wall must the foot of a 15 m ladder be placed to make a safe angle of 75° with the ground?

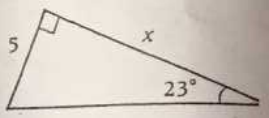


12. Use a trigonometric ratio to determine in each of the following.

(a)

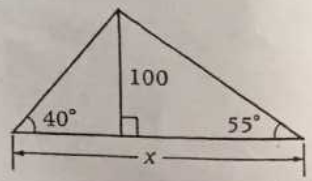


(b)



Determine x in each of the following.

1.



2.