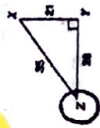


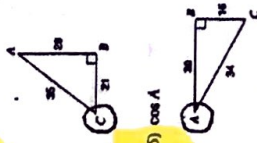
Find the value of each trigonometric ratio.

1)  $\tan Z$



$$\tan Z = \frac{3}{4}$$

3)  $\sin C$



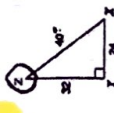
$$\sin C = \frac{4}{5}$$

5)  $\cos A$



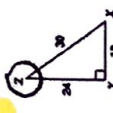
$$\cos A = \frac{15}{17}$$

7)  $\sin Z$



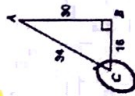
$$\sin Z = \frac{3}{5}$$

9)  $\cos Z$



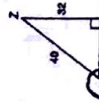
$$\cos Z = \frac{4}{5}$$

2)  $\cos C$



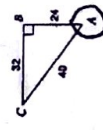
$$\cos C = \frac{8}{17}$$

4)  $\tan X$



$$\tan X = \frac{4}{3}$$

6)  $\sin A$



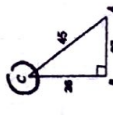
$$\sin A = \frac{4}{5}$$

8)  $\sin C$



$$\sin C = \frac{7}{25}$$

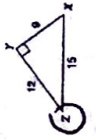
10)  $\tan C$



$$\tan C = \frac{3}{4}$$

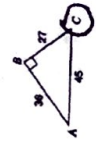
Find the value of each trigonometric ratio to the nearest ten-thousandth.

11)  $\cos Z$



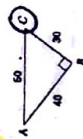
$$\cos Z = \frac{4}{5}$$

12)  $\cos C$



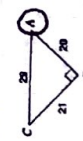
$$\cos C = \frac{3}{5}$$

13)  $\tan C$



$$\tan C = \frac{4}{3}$$

14)  $\tan A$



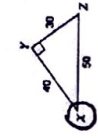
$$\tan A = \frac{21}{20}$$

15)  $\tan C$



$$\tan C = \frac{12}{35}$$

16)  $\tan X$



$$\tan X = \frac{3}{4}$$

17)  $\sin Z$



$$\sin Z = \frac{12}{37}$$

18)  $\sin Z$



$$\sin Z = \frac{3}{5}$$

19)  $\sin 48^\circ$

$$0.743145$$

20)  $\sin 38^\circ$

$$0.615661$$

21)  $\cos 61^\circ$

$$0.484809$$

22)  $\cos 51^\circ$

$$0.629320$$

Critical thinking questions:

23) Can the sine of an angle ever equal 2? Why or why not?

No, it is always a fraction less than one; hypotenuse on the bottom.

24)  $\sin x = \frac{1}{3}$   
Find  $\cos x$ .




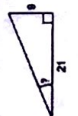
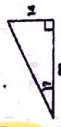
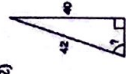


$$\cos x = \frac{2\sqrt{10}}{3}$$


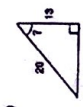
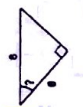

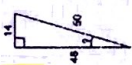

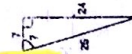

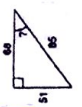

Inverse Trigonometric Ratios

Find each angle measure to the nearest degree.

- 1)  $\sin B = 0.4848$       $29^\circ$
- 2)  $\sin A = 0.5150$       $31^\circ$
- 3)  $\cos A = 0.7431$       $42^\circ$
- 4)  $\cos W = 0.6157$       $52^\circ$
- 5)  $\cos A = 0.5878$       $54^\circ$
- 6)  $\tan W = 19.0811$       $87^\circ$
- 7)  $\cos A = 0.4226$       $65^\circ$
- 8)  $\tan W = 0.5317$       $28^\circ$

Find the measure of the indicated angle to the nearest degree.

- 9)   $\tan \theta = \frac{27}{38}$       $\theta = 35^\circ$
- 10)   $\tan \theta = \frac{9}{21}$       $\theta = 23^\circ$
- 11)   $\tan \theta = \frac{14}{29}$       $\theta = 26^\circ$
- 12)   $\sin \theta = \frac{40}{47}$       $\theta = 72^\circ$
- 13)   $\sin \theta = \frac{10}{39}$       $\theta = 15^\circ$
- 14)   $\sin \theta = \frac{11}{27}$       $\theta = 24^\circ$

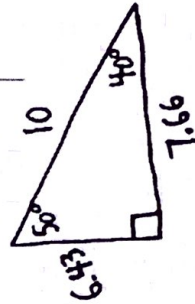
- 15)   $\sin \theta = \frac{12}{24}$       $\theta = 30^\circ$
- 16)   $\cos \theta = \frac{13}{20}$       $\theta = 49^\circ$
- 17)   $\cos \theta = \frac{6}{8}$       $\theta = 41^\circ$
- 18)   $\cos \theta = \frac{4}{5}$       $\theta = 37^\circ$
- 19)   $\sin \theta = \frac{14}{50}$       $\theta = 16^\circ$
- 20)   $\sin \theta = \frac{51}{85}$       $\theta = 53^\circ$
- 21)   $\sin \theta = \frac{24}{25}$       $\theta = 74^\circ$
- 22)   $\sin \theta = \frac{16}{34}$       $\theta = 28^\circ$
- 23)   $\sin \theta = \frac{51}{68}$       $\theta = 49^\circ$
- 24)   $\sin \theta = \frac{42}{70}$       $\theta = 37^\circ$

Critical thinking questions:

25) Find an angle  $x$  where  $\sin x = \cos x$ .

$x = 45^\circ$

26) Draw and label all three sides of a right triangle that has a  $40^\circ$  angle and a hypotenuse of 10 cm.



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