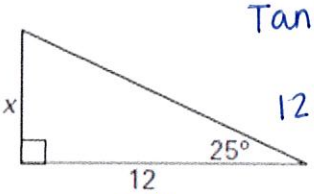
Name _____ Date _____

Day 7 – Trig Ratios: Missing Sides and Missing Angles

Solve for the missing variable.

1.



opp

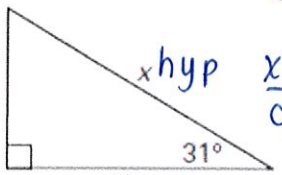
adj

$\tan(25) = \frac{x}{12}$

$12(\tan(25)) = x$

$x \approx 5.60$

2.



hyp

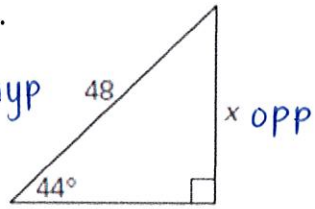
adj

$\cos(31) = \frac{12}{x}$

$\frac{x(\cos(31))}{\cos(31)} = \frac{12}{\cos(31)}$

$x \approx 14.00$

3.



hyp

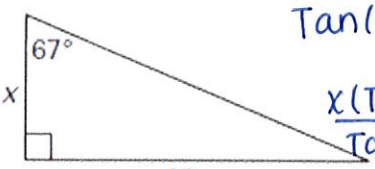
x opp

$\sin(44) = \frac{x}{48}$

$48(\sin(44)) = x$

$x \approx 33.34$

4.



adj

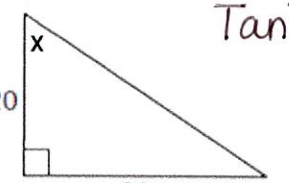
opp

$\tan(67) = \frac{18}{x}$

$\frac{x(\tan(67))}{\tan(67)} = \frac{18}{\tan(67)}$

$x \approx 7.64$

5.



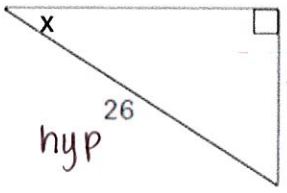
adj

opp

$\tan^{-1} x = \frac{30}{20}$

$x \approx 56.31°$

6.



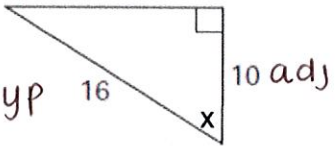
hyp

opp

$\sin^{-1} x = \frac{14}{26}$

$x \approx 32.58°$

7.



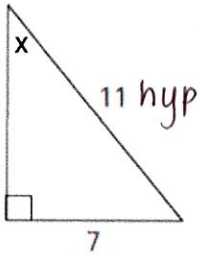
hyp

adj

$\cos^{-1} x = \frac{10}{16}$

$x \approx 51.32°$

8.



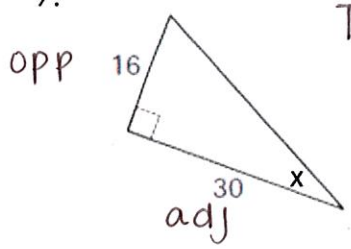
hyp

opp

$\sin^{-1} x = \frac{7}{11}$

$x \approx 39.52°$

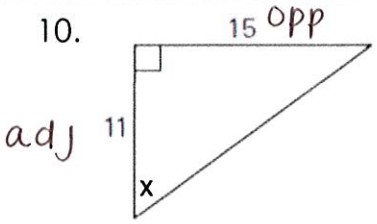
9.



$\tan^{-1} x = \frac{16}{30}$

$x \approx 28.07°$

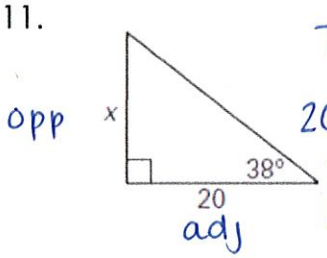
10.



$\tan^{-1} x = \frac{15}{11}$

$x \approx 53.75°$

11.

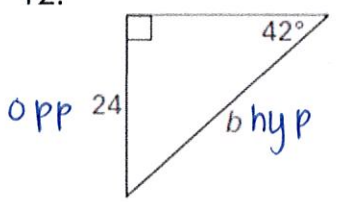


$\tan(38) = \frac{x}{20}$

$20(\tan(38)) = x$

$x \approx 15.63$

12.

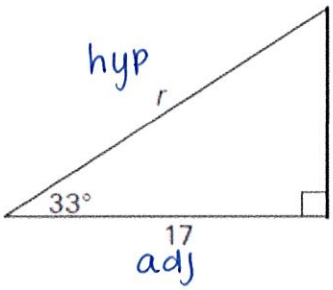


$\sin(42) = \frac{24}{b}$

$\frac{b(\sin(42))}{\sin(42)} = \frac{24}{\sin(42)}$

$b \approx 35.87$

13.

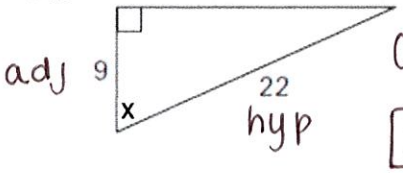


$\cos(33) = \frac{17}{r}$

$\frac{r(\cos(33))}{\cos(33)} = \frac{17}{\cos(33)}$

$r \approx 20.27$

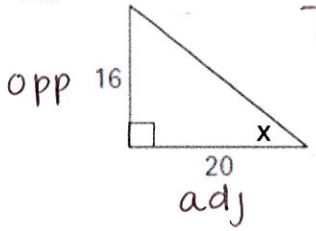
14.



$\cos^{-1} x = \frac{9}{22}$

$x \approx 65.85°$

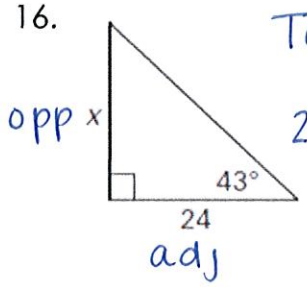
15.



$\tan^{-1} x = \frac{16}{20}$

$x \approx 38.66°$

16.

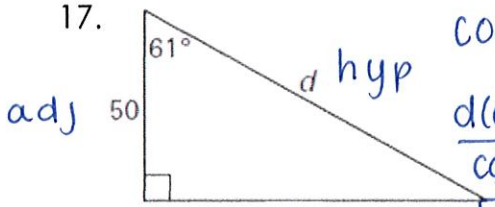


$\tan(43) = \frac{x}{24}$

$24(\tan(43)) = x$

$x \approx 22.38$

17.

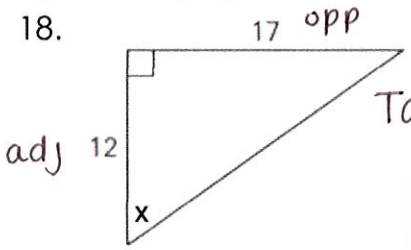


$\cos(61) = \frac{50}{d}$

$\frac{d(\cos(61))}{\cos(61)} = \frac{50}{\cos(61)}$

$d \approx 103.13$

18.



$\tan^{-1} x = \frac{17}{12}$

$x \approx 54.78°$