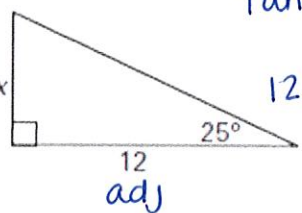
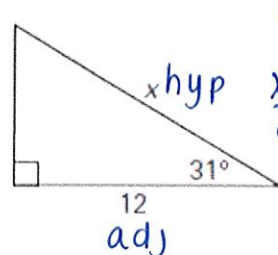
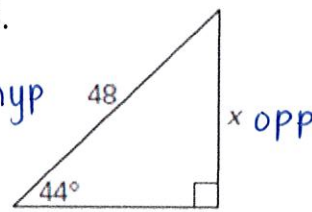


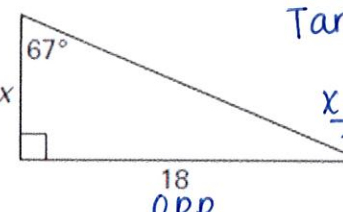
Day 7 – Trig Ratios: Missing Sides and Missing Angles

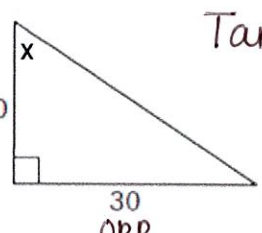
Solve for the missing variable.

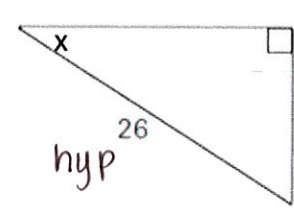
1.  $\tan(25) = \frac{x}{12}$
 $12(\tan(25)) = x$
 $x \approx 5.60$

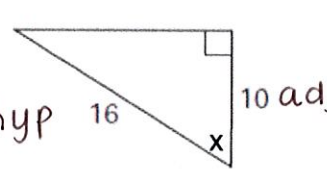
2.  $\cos(31) = \frac{12}{x}$
 $\frac{x(\cos(31))}{\cos(31)} = \frac{12}{\cos(31)}$
 $x \approx 14.00$

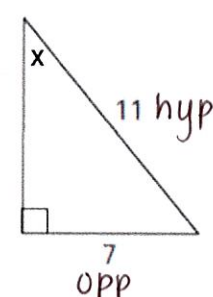
3.  $\sin(44) = \frac{x}{48}$
 $48(\sin(44)) = x$
 $x \approx 33.34$

4.  $\tan(67) = \frac{18}{x}$
 $\frac{x(\tan(67))}{\tan(67)} = \frac{18}{\tan(67)}$
 $x \approx 7.64$

5.  $\tan^{-1} x = \frac{30}{20}$
 $x \approx 56.31^\circ$

6.  $\sin^{-1} x = \frac{14}{26}$
 $x \approx 32.58^\circ$

7.  $\cos^{-1} x = \frac{10}{16}$
 $x \approx 51.32^\circ$

8.  $\sin^{-1} x = \frac{7}{11}$
 $x \approx 39.52^\circ$

9.

opp 16
adj 30

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

$$x \approx 28.07^\circ$$

10.

opp 15
adj 11

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

$$x \approx 53.75^\circ$$

11.

opp x
adj 20

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

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

$$x \approx 15.63$$

12.

opp 24
hyp b

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

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

$$b \approx 35.87$$

13.

hyp r
adj 17

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

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

$$r \approx 20.27$$

14.

adj 9
hyp 22

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

$$x \approx 65.85^\circ$$

15.

opp 16
adj 20

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

$$x \approx 38.66^\circ$$

16.

opp x
adj 24

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

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

$$x \approx 22.38$$

17.

adj 50
hyp d

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

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

$$d \approx 103.13$$

18.

opp 17
adj 12

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

$$x \approx 54.78^\circ$$