

Math 2

- Take out HW
- Test tomorrow
- Grab toolkit, scissors + gluestick

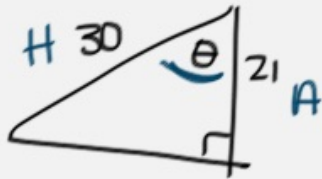
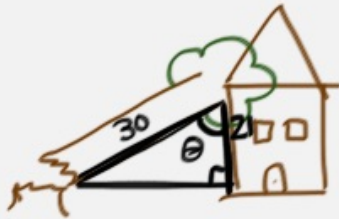
HW Answers

1. 222.8
2. 45.57°
3. 32.2
4. 53.1°
5. 85
6. 567.1
7. 13.8
8. 102°
9. 276.7
10. 182

Created with Doceri



#2.



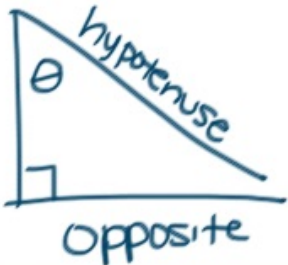
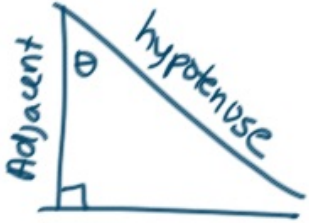
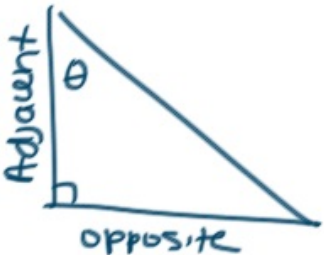
$$\cos \theta = \frac{21}{30}$$

$$\cos^{-1}\left(\frac{21}{30}\right)$$

$$\theta = 45.57^\circ$$

Created with Doceri



Front Flap	inside front flap	Backside
SOH		$\sin \theta = \frac{\text{opposite}}{\text{hypotenuse}}$ $\theta = \sin^{-1} \left(\frac{\text{opposite}}{\text{hypotenuse}} \right)$
CAH		$\cos \theta = \frac{\text{adjacent}}{\text{hypotenuse}}$ $\theta = \cos^{-1} \left(\frac{\text{adjacent}}{\text{hypotenuse}} \right)$
TOA		$\tan \theta = \frac{\text{opposite}}{\text{adjacent}}$ $\theta = \tan^{-1} \left(\frac{\text{opposite}}{\text{adjacent}} \right)$

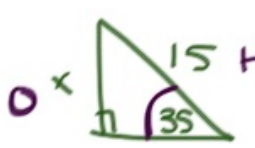
Created with Doceri 

*** Be sure to check your calculator mode (Degrees)***

Basic Trig Ratios

Examples

Solve for x:

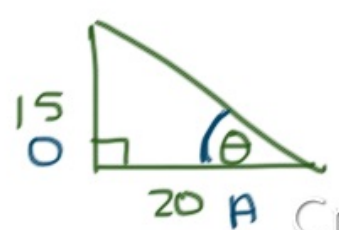


$15 \cdot \sin 35 = \frac{x}{15} \cdot 15$

$$x = 15 \sin 35$$

$x \approx 8.6$

Solve for θ :



$$\tan \theta = \frac{15}{20}$$


$$\theta = \tan^{-1} \left(\frac{15}{20} \right)$$

$\theta \approx 36.9^\circ$

SOH

CAH


TOA




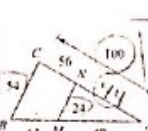
Math 2 Name KCU ID: 1
 Date _____ Period _____

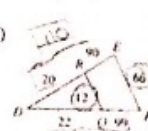
Similarity Review

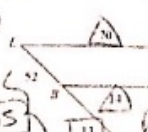
State if the triangles in each pair are similar. If so, state how you know they are similar and complete the similarity statement.


1)  AA
 $\triangle TUV \sim \triangle ABC$

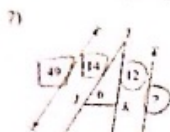
2)  Not Similar
 $\triangle EFG \sim$ _____

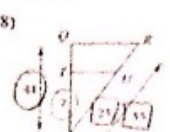
3)  Not Similar
 $\triangle ABC \sim$ _____
 $\frac{54}{24} = 2.25$
 $\frac{100}{44} = 2.27$

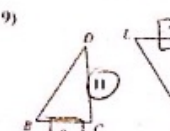
4)  SSS
 $\triangle DEF \sim \triangle RQO$
 $\frac{110}{20} = 5.5$
 $\frac{66}{12} = 5.5$
 $\frac{121}{22} = 5.5$

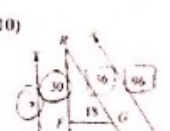
5)  SSS
 $\triangle KLM \sim \triangle KRC$
 $\frac{52}{11} = 4.73$
 $\frac{10}{10} = 1$
 $\frac{13}{13} = 1$

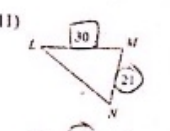
6)  SSS
 $\frac{21}{14} = 1.5$
 $\frac{31}{21} = 1.48$
 $\frac{14}{13} = 1.08$


7)  $\frac{49}{14} = 3.5$
 $12(3.5) = 42$


8)  $\frac{55}{25} = 2.2$
 $44 \div 2.2 = 20$


9)  $\frac{88}{11} = 8$
 $8(2) = 16$

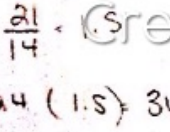
10)  $\frac{16}{30} = 2.5$
 $20(2.5) = 50$


11)  $\frac{70}{30} = 2.33$
 $21(2.33) = 49$

12)  $\frac{11}{13} = 2$
 $14 - 2 = 7$

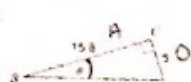
13)  $\frac{21}{14} = 1.5$
 $24(1.5) = 36$
 $x = 12$

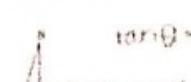
14)  $2x+12 = 30$
 $2x = 18$
 $x = 9$

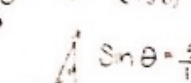
7)  $\frac{21}{14} = 1.5$
 $24(1.5) = 36$
 $x = 12$

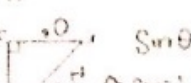
8)  $2x+12 = 30$
 $2x = 18$
 $x = 9$

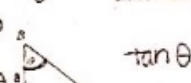
Round to the nearest tenth.


1)  $\tan \theta = \frac{5}{15/8}$ $\theta = \tan^{-1}(\frac{5}{15/8})$ $\theta = 17.6$

2)  $\tan \theta = \frac{10}{10/3}$ $\theta = \tan^{-1}(\frac{10}{10/3})$ $\theta = 73.3$

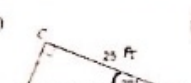
3)  $\sin \theta = \frac{12}{13}$ $\theta = \sin^{-1}(\frac{12}{13})$ $\theta = 67.4$

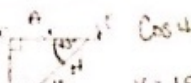
4)  $\sin \theta = \frac{9}{13}$ $\theta = \sin^{-1}(\frac{9}{13})$ $\theta = 43.8$

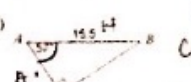
5)  $\tan \theta = \frac{10}{8}$ $\theta = \tan^{-1}(\frac{10}{8})$ $\theta = 51.3$

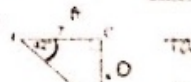
6)  $\tan \theta = \frac{10}{13}$ $\theta = \tan^{-1}(\frac{10}{13})$ $\theta = 37.6$

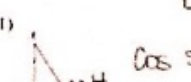
Find the measure of each side indicated. Round to the nearest tenth.


7)  $\cos 22 = \frac{25}{x}$ $x = \frac{25}{\cos 22}$ $x = 27$

8)  $\cos 43 = \frac{x}{15}$ $x = 15 \cos 43$ $x = 11$

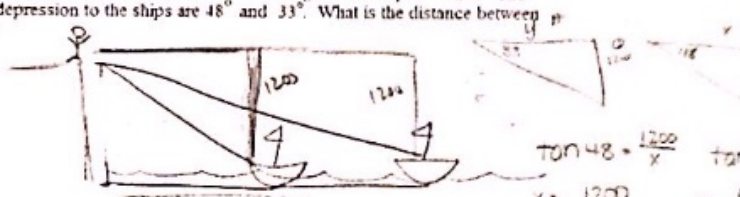
9)  $\cos 57 = \frac{x}{15.5}$ $x = 15.5 \cos 57$ $x = 8.4$

10)  $\tan 42 = \frac{x}{7}$ $x = 7 \tan 42$ $x = 6.3$

11)  $\cos 58 = \frac{x}{3.8}$ $x = 3.8 \cos 58$ $x = 2$

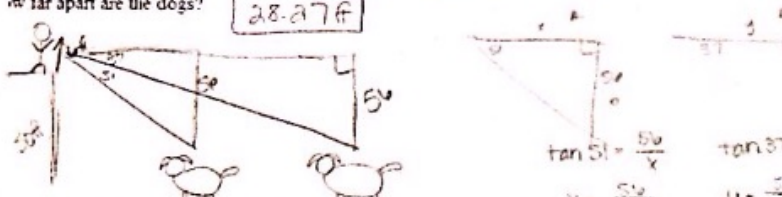
12)  $\sin 42 = \frac{16}{x}$ $x = \frac{16}{\sin 42}$ $x = 23.9$

Ever on a cliff 1200 feet above sea level sights two ships due East. The angle of depression to the ships are 48° and 33° . What is the distance between the ships?



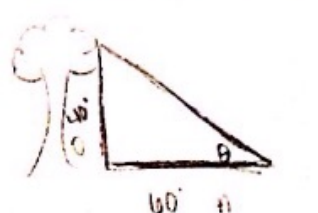
$\tan 48 = \frac{1200}{x}$ $\tan 33 = \frac{1200}{y}$
 $x = \frac{1200}{\tan 48}$ $y = \frac{1200}{\tan 33}$
 767.56 ft

Standing on a 50 foot cliff, looking at my two dogs sitting on the beach below. The angle of sight is $6'$ above the ground and the angles of depression are 51° and 37° . How far apart are the dogs?



$\tan 51 = \frac{50}{x}$ $\tan 37 = \frac{50}{y}$
 $x = \frac{50}{\tan 51}$ $y = \frac{50}{\tan 37}$
 28.27 ft

A tree 40' tall casts a shadow of length 60'. What is the angle of elevation (with respect to the ground) from the end of the shadow to the top of the tree?



$\tan \theta = \frac{40}{60}$
 $\theta = \tan^{-1}(\frac{40}{60})$
 33.69°

Created with Doceri 