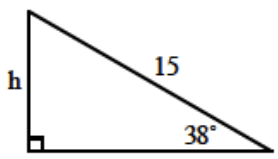
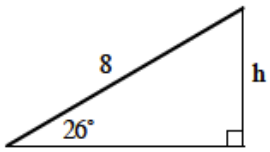
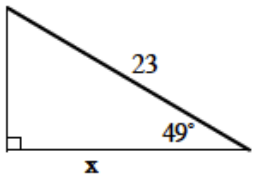
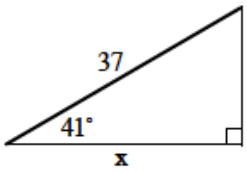
Geometry Name: _____

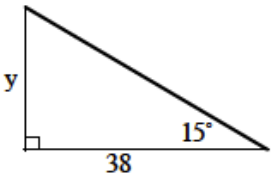
WS Practice 42 Trig Date: Period:

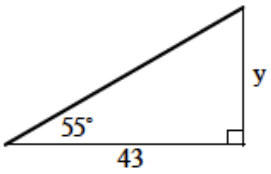
1. 

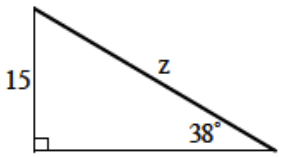
2. 

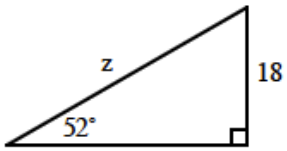
3. 

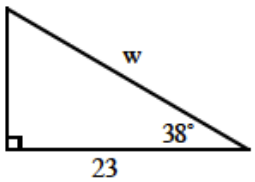
4. 

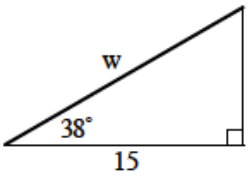
5. 

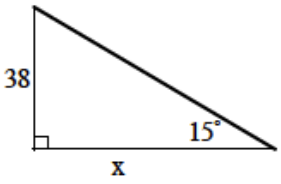
6. 

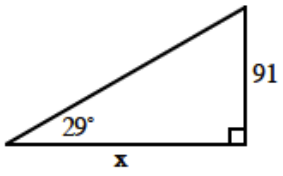
7. 

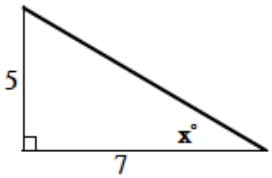
8. 

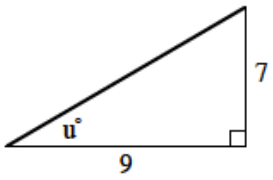
9. 

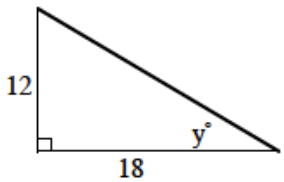
10. 

11. 

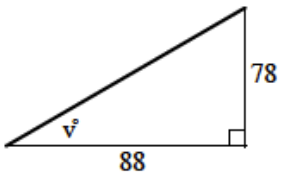
12. 

13. 

14. 

15. 

16.



Draw a diagram and use trigonometric ratios to solve each of the following problems.

17. Juanito is flying a kite at the park and realizes that all 500 feet of string are out. Margie measures the angle of the string with the ground with her clinometer and finds it to be 42.5˚. How high is Juanito's kite above the ground?

18. Nell's kite has a 350 foot string. When it is completely out, Ian measures the angle to be 47.5˚. How far would Ian need to walk to be directly under the kite?

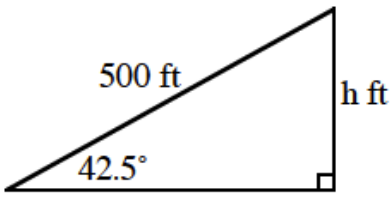
19. Mayfield High School's flagpole is 15 feet high. Using a clinometer, Tamara measured an angle of 11.3˚ to the top of the pole. Tamara is 62 inches tall. How far from the flagpole is Tamara standing?

20. Tamara took another sighting of the top of the flagpole from a different position. This time the angle is 58.4˚. If everything else is the same, how far from the flagpole is Tamara standing?

Answers

1. $h = 15\sin 38° \approx 9.235$
2. $h = 8\sin 26° \approx 3.507$
3. $x = 23\cos 49° \approx 15.089$
4. $x = 37\cos 41° \approx 27.924$
5. $y = 38\tan 15° \approx 10.182$
6. $y = 43\tan 55° \approx 61.4104$
7. $z = \frac{15}{\sin 38°} \approx 24.364$
8. $z = \frac{18}{\sin 52°} \approx 22.8423$
9. $w = \frac{23}{\cos 38°} \approx 29.1874$
10. $w = \frac{15}{\cos 38°} \approx 19.0353$
11. $x = \frac{38}{\tan 15°} \approx 141.818$
12. $x = \frac{91}{\tan 29°} \approx 164.168$
13. $x = \tan^{-1}\frac{5}{7} \approx 35.5377°$
14. $u = \tan^{-1}\frac{7}{9} \approx 37.875°$
15. $y = \tan^{-1}\frac{12}{18} \approx 33.690°$
16. $y = \tan^{-1}\frac{78}{88} \approx 41.5526°$

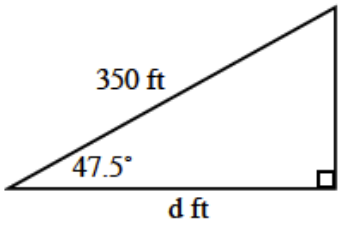
17.



$\sin 42.5 = \frac{h}{500}$

h = 500 sin 42.5° ≈ 337.795 ft

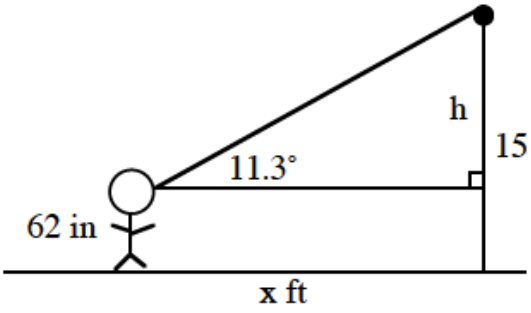
18.



$\cos 47.5° = \frac{d}{350}$

d = 350 cos 47.5° ≈ 236.46 ft

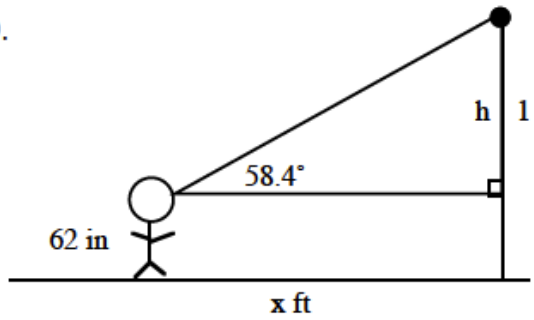
19.



15 feet = 180 inches, 180" – 62" = 118" = h

x ≈ 590.5 inches or 49.2 ft.

20.



h = 118", $\tan 58.4° = \frac{118''}{x}$,

$x\tan 58.4 = 118''$, $x = \frac{118''}{\tan 58.4°}$

x ≈ 72.59 inches or 6.05 ft.