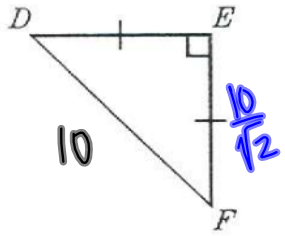
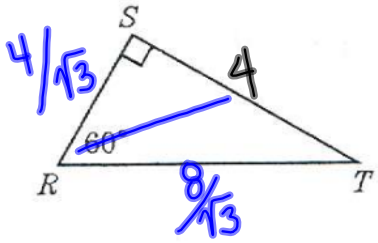
Quiz I.1 - I.3 Review

1. If $DF = 10$, find the length of EF.



45 | 45 | 90
x | x | x√2
10
$\frac{x\sqrt{2}}{\sqrt{2}} = \frac{10}{\sqrt{2}}$

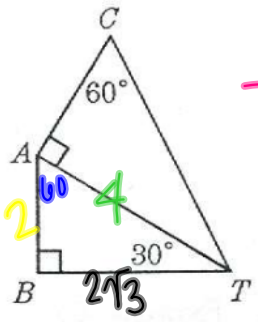
2. If $ST = 4$, find the lengths of SR and RT.



30 | 60 | 90
x | x√3 | 2x
4/√3 | 4
$\frac{x\sqrt{3}}{\sqrt{3}} = \frac{4}{\sqrt{3}}$

3. If $BT = 2\sqrt{3}$, find the length of CT.

8/√3

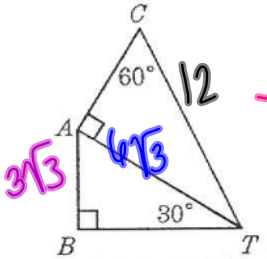


ΔABT
30 | 60 | 90
x | x√3 | 2x
2 | 2√3 | 2·2

ΔCAT
30 | 60 | 90
x | x√3 | 2x
4/√3 | 4 | 2·4/√3
$\frac{x\sqrt{3}}{\sqrt{3}} = \frac{4}{\sqrt{3}}$

4. If $CT = 12$, find the length of AB.

3√3



ΔCAT
30 | 60 | 90
x | x√3 | 2x
6 | 6√3 | 12
2x = 12
x = 6

ΔABT
30 | 60 | 90
x | x√3 | 2x
3√3 | 6√3
$\frac{2x}{2} = \frac{6\sqrt{3}}{2}$
$x = 3\sqrt{3}$

5. A square has a diagonal of length $10\sqrt{3}$. What is the perimeter of the square?

45 45 90
x x x√2
10√3

x√2/√2 = 10√3/√2
x = 10√3/2

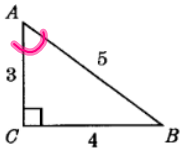
perimeter of square = 4·s
4(10√3/2)
40√3/2

For 6 – 7, use the triangle below.

6. What ratio is equal to 5/3?

s is hypotenuse

a. sinB b. cscB c. cosA d. secA



SOHCAHTOA

7. Find cot <A.

cot θ = ADJ/OPP = 3/4

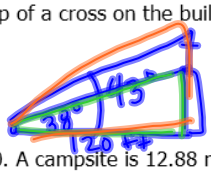
8. If cos73° = sinθ, find θ.

↑ just a #

sin⁻¹(cos73) = θ

17°

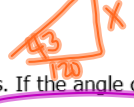
9. From a point 120 feet from the base of a church, the angles of elevation of the top of the building and the top of a cross on the building are 38° and 43° respectively. Find the height to the top of the cross.



Building:

tan38 = x/120
93.754

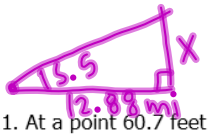
Cross:



tan43 = x/120
111.902

111.902
−93.754
18.148 ft

10. A campsite is 12.88 miles from a point directly below Mt. Adams. If the angle of elevation is 15.5° from the camp to the top of the mountain, how high is the mountain?



tan15.5 = x/12.88

3.572 mi

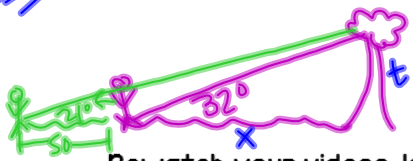
11. At a point 60.7 feet from the base of a building, the angle of elevation from that point to the top is 64.75°. How tall is the building?

tan64.75 = x/60.7

128.702 ft

challenge

12. Tom wished to find the width of a river. He observed a tree directly across the river on the opposite bank. The angle of elevation to the top of the tree was 32°. Then Tom moved directly back from the bank 50 meters and found that the angle of elevation to the top of the tree was 21°. What is the width of the river?



tan21 = t/(x+50)
.383 = .625x/(x+50)

tan32 = t/x
x · .625 = (t/x) · x
0.625x = t

Rewatch your videos, look through I.1, I.2, and I.3 worksheets and notes! Good Luck!!

.383(x+50) = .625x
.383x + 19.15 = .625x
−.383x −.383x

19.15 = .242x
.242 .242

79.132 m