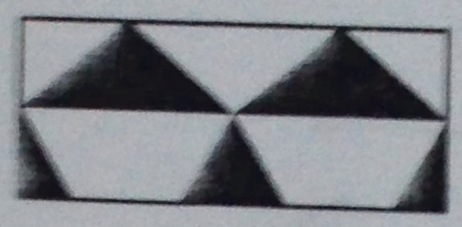
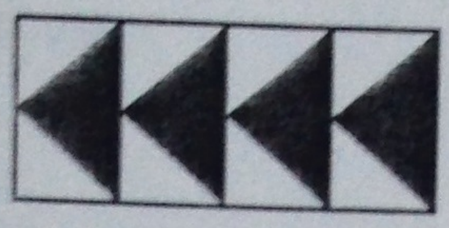
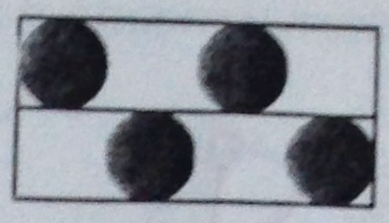
or both.

9. 

translation symmetry

10. 

both

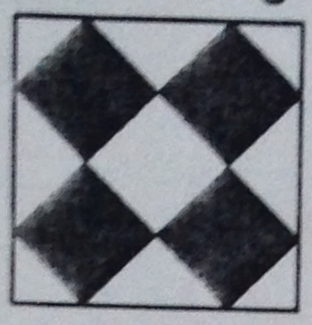
11. 

both

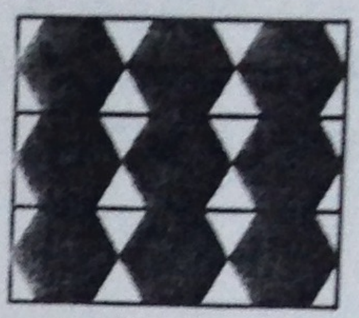
Classify each tessellation as regular, semiregular, or neither.

12. 

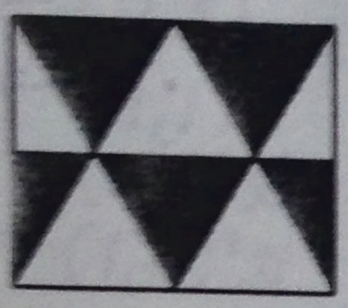
neither

13. 

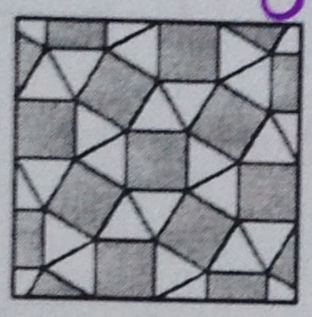
Regular

14. 

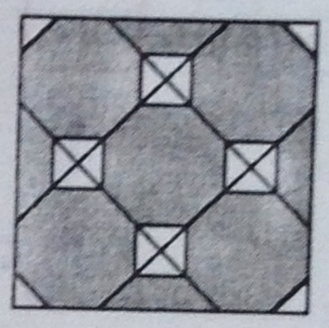
semi-regular

15. 

regular

16. 

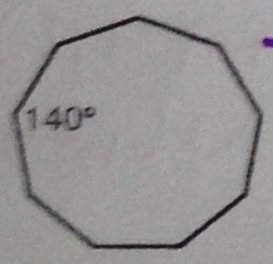
semi-regular

17. 

regular

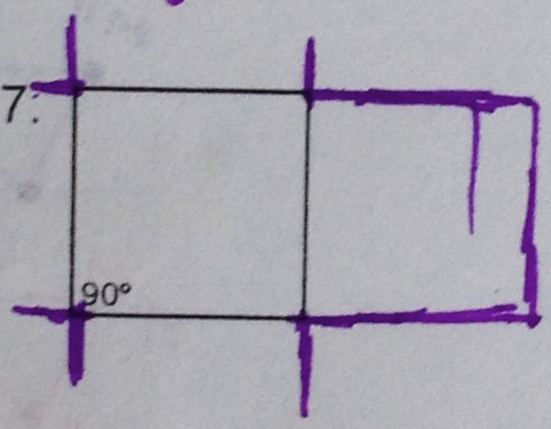
Determine whether the given regular polygon(s) can be used to form a tessellation. If so, draw the tessellation.

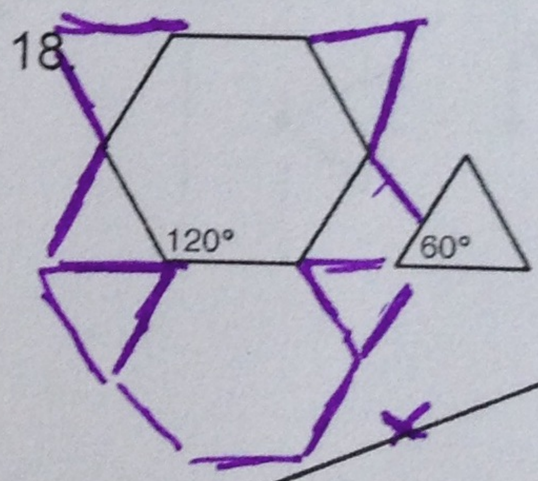
yes

16. 

$\frac{360}{140} = 2...$

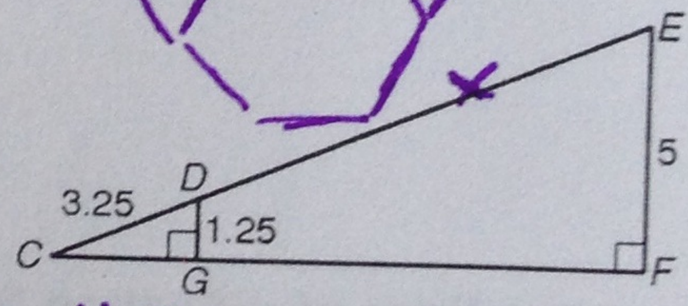
No

17. 

18. 

Review:

For Exercise 1, explain why the triangles are similar and find the stated length.



1. *DE*

$\frac{3.25}{1.25} = \frac{3.25+x}{5}$

$3.25(5) = 1.25(3.25+x)$

$16.25 = 4.0625 + 1.25x$

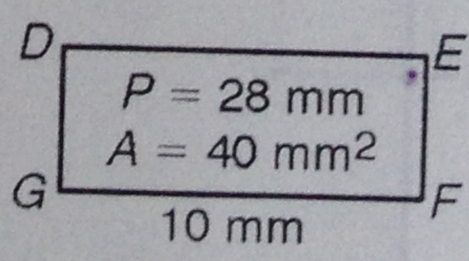
$12.19 = 1.25x$

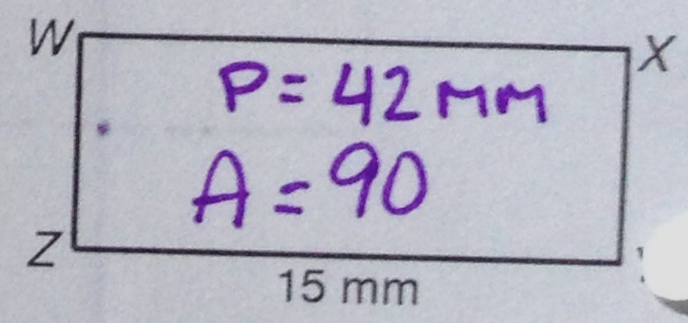
$9.75 = x$

Given that *DEFG* ~ *WXYZ*, find each of the following.

2. perimeter of *WXYZ*

$\frac{2}{3} = \frac{28}{x}$ $2x = 84$ $x = 42$





3. area of *WXYZ*

$\frac{2^2}{3^2} = \frac{4}{9} = \frac{40}{A}$

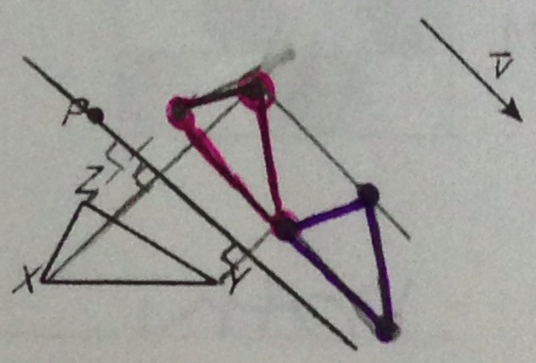
$4A = 360$

SF = $\frac{2}{3}$

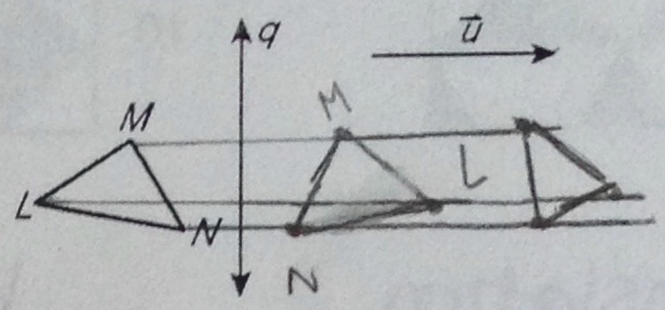
Name _____ Period _____ Homework 9.4 & 9.6

Draw the result of each composition of isometries.

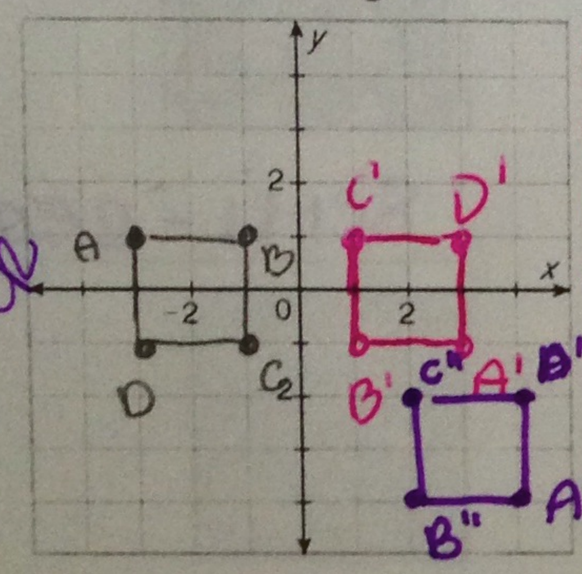
1. Rotate $\triangle XYZ$ 90° about point P and then translate it along $\vec{v}$.



2. Reflect $\triangle LMN$ across line q and then translate it along $\vec{u}$.



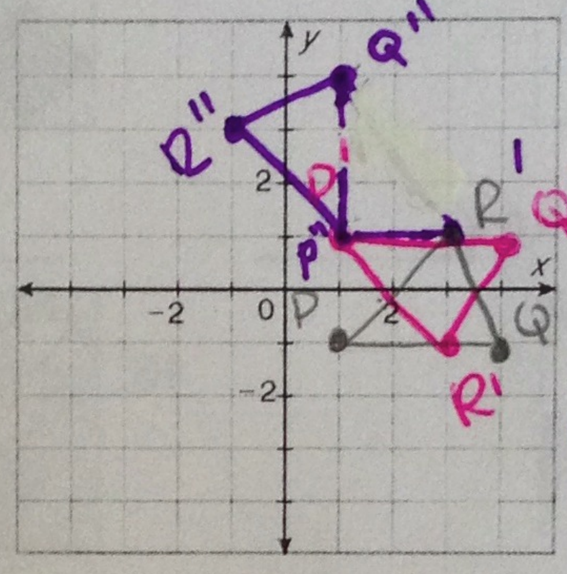
3. $ABCD$ has vertices $A(-3, 1)$, $B(-1, 1)$, $C(-1, -1)$, and $D(-3, -1)$. Rotate $ABCD$ 180° about the origin and then translate it along the vector $\langle 1, -3 \rangle$.



A(-3,1) → (3,-1)
B(-1,1) → (1,-1)
C(-1,-1) → (1,1)
D(-3,-1) → (3,1)
(x,y) → (-x,-y)

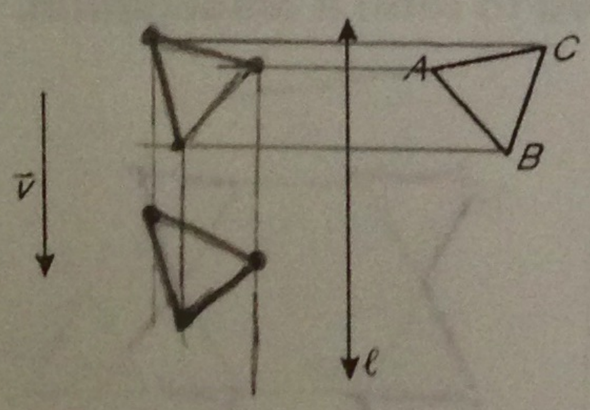
Example = Final answer

4. $\triangle PQR$ has vertices $P(1, -1)$, $Q(4, -1)$, and $R(3, 1)$. Reflect $\triangle PQR$ across the x-axis and then reflect it across $y = x$.

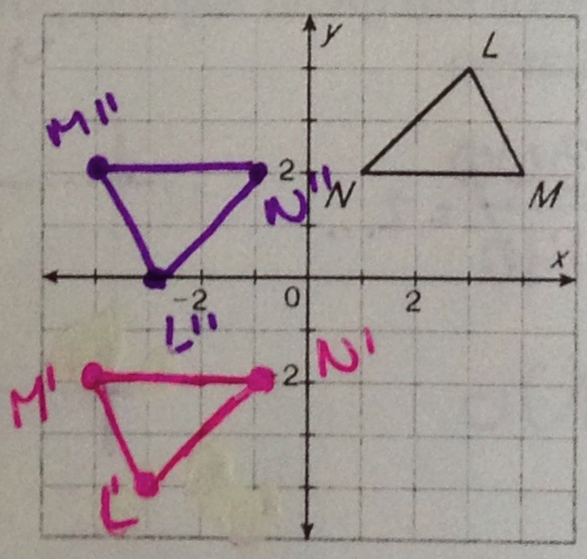


(x, y) → (x, -y)
P(1, -1) → (1, 1)
Q(4, -1) → (4, 1)
R(3, 1) → (3, -1)
(x, y) → (y, x)
P'(1, 1) → (1, 1)
Q'(4, 1) → (1, 4)
R'(3, 1) → (-1, 3)

5. Reflect $\triangle ABC$ across line ℓ and then translate it along $\vec{v}$.



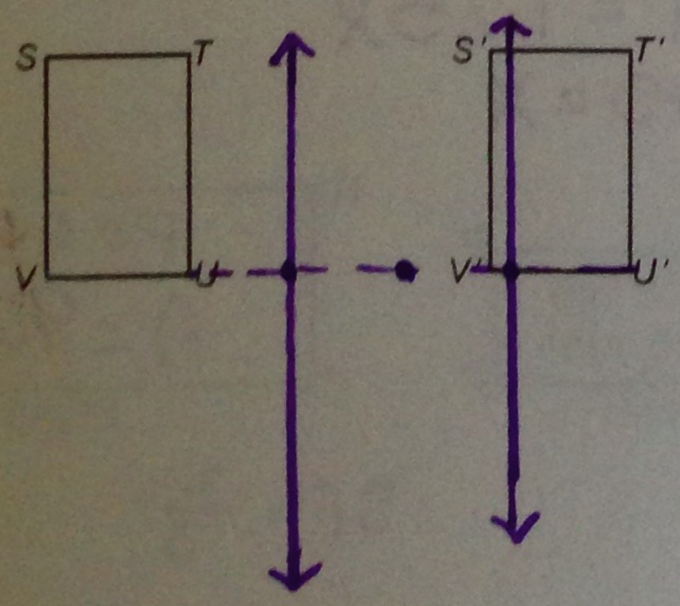
6. $\triangle LMN$ has vertices $L(3, 4)$, $M(4, 2)$, and $N(1, 2)$. Rotate $\triangle LMN$ 180° about the origin and then translate it along the vector $\langle 0, 4 \rangle$.



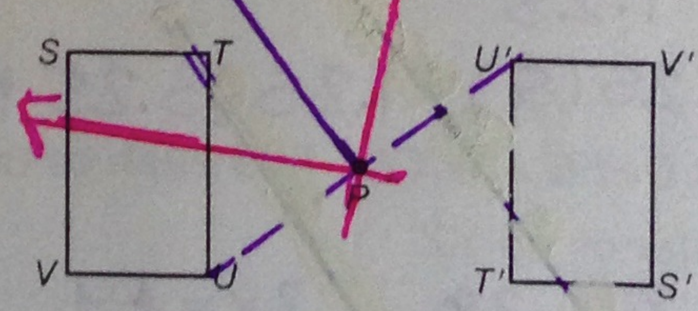
(x, y) → (-x, -y)
L(3, 4) → (-3, -4)
M(4, 2) → (-4, -2)
N(1, 2) → (-1, -2)

Draw two lines of reflection that produce an equivalent transformation for each figure.

7. translation: $STUV \rightarrow S'T'U'V'$



8. rotation with center P: $STUV \rightarrow S'T'U'V'$

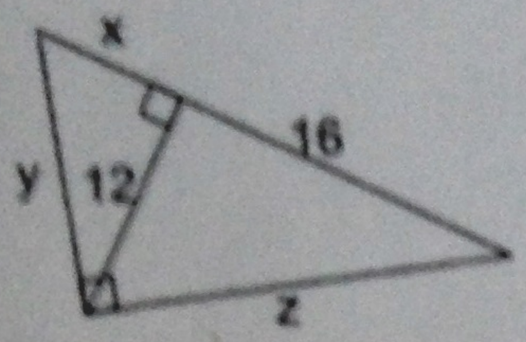


Evens

Geometry Review Problems

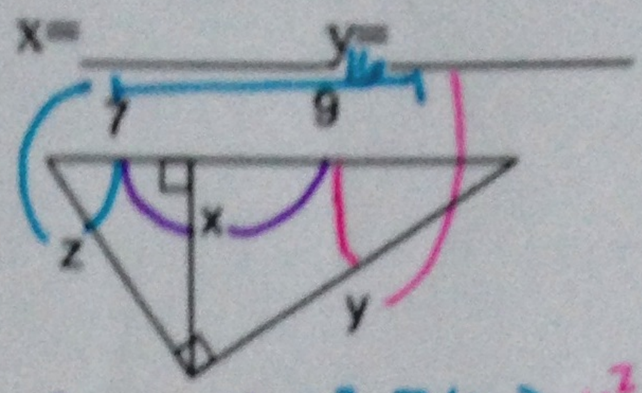
1.

x= _____ y= _____ z= _____



2.

x= _____ y= _____



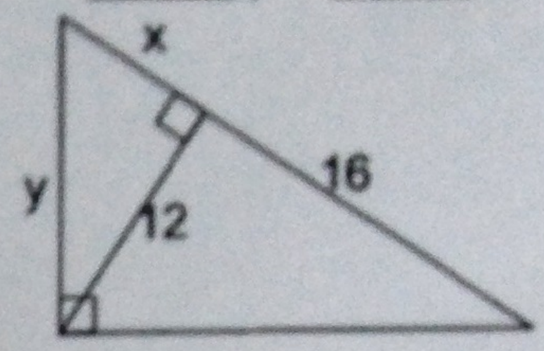
$x^2 = 7(9)$ $z^2 = 7(16)$ $y^2 = 9(16)$

$x^2 = 63$ $z^2 = 112$ $y^2 = 144$

$x = 3\sqrt{7}$ $z = 4\sqrt{7}$ $y = 12$

3.

x = _____ y = _____ z = _____

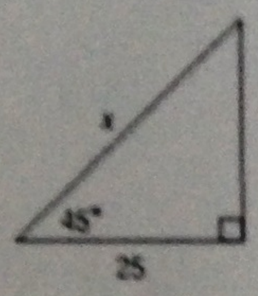


4. Find the geometric mean of 8 and 18.

$\sqrt{8(18)} = \sqrt{144} = 12$

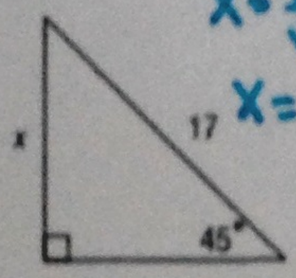
5. Find the geometric mean of 20 and 25

6.



$x = 25\sqrt{2}$

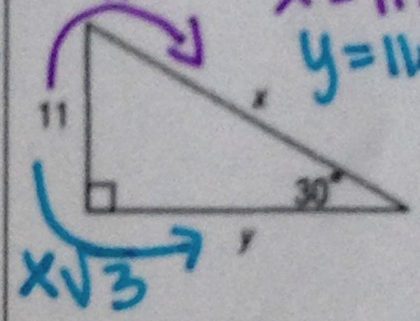
7.



$x = \frac{17}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}}$

$x = \frac{17\sqrt{2}}{2}$

8. ×2

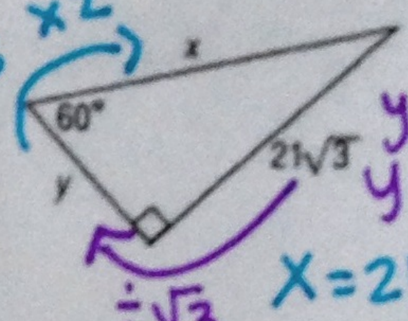


$x = 11 \times 2 = 22$

$y = 11 \times \sqrt{3} = 11\sqrt{3}$

$x\sqrt{3}$

9. ×2



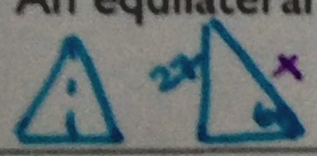
$y = \frac{21\sqrt{3}}{\sqrt{3}}$

$y = 21$

$\div\sqrt{3}$

$x = 21 \times 2 = 42$

10. An equilateral triangle has an altitude length of 27 feet. Determine the length of a side of the triangle.

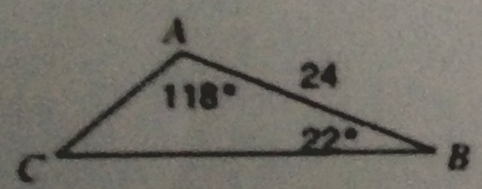


$\frac{27}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{27\sqrt{3}}{3} = 9\sqrt{3}$

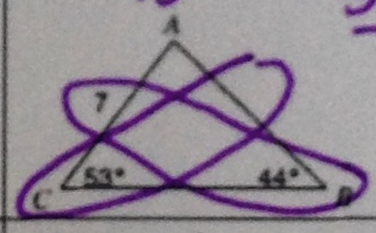
$x = 9\sqrt{3} \times 2 = 18\sqrt{3}$

Use law of sine to find each measurement indicated. Round your answers to the nearest tenth.

11. AC



12. AB

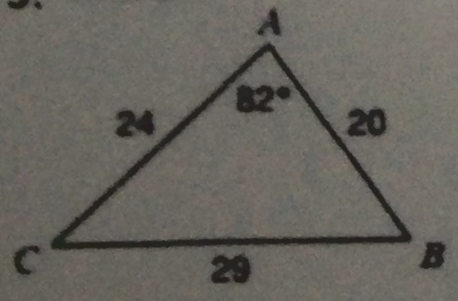


$\frac{\sin 44}{7} = \frac{\sin 53}{AB}$

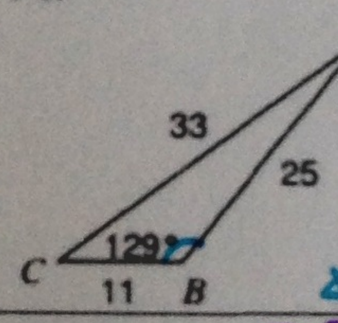
$AB \cdot \sin 44 = 7 \cdot \sin 53$

$AB = \frac{7 \cdot \sin 53}{\sin 44} \approx 8$

13. $m\angle C$



14. $m\angle A$



$\frac{\sin 129}{33} = \frac{\sin A}{11}$

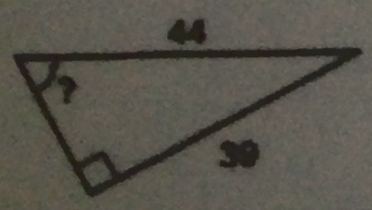
$\frac{11 \sin 129}{33} = \sin A$

$\angle A = \sin^{-1}\left(\frac{11 \sin 129}{33}\right) = 15°$

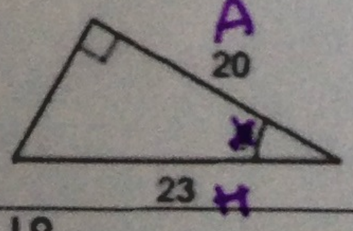
Find the measure of the indicated angle to the nearest degree.

SOH CAH TOA

15.



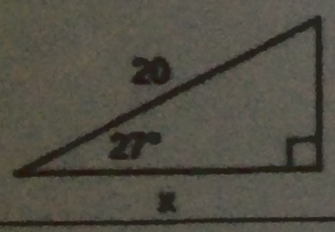
16.



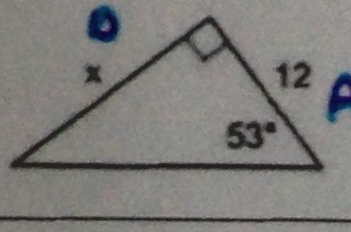
$\cos x = \frac{20}{23}$

$\angle x = \cos^{-1}\left(\frac{20}{23}\right) = 29.6°$

17.



18.



$\tan 53 = \frac{x}{12}$

$12 \cdot \tan 53 = x = 16$