

# SOLUTIONS

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11/2/16

SRT-C6a

## Practice Assessment

1. Find the lengths of the sides marked  $u$  and  $v$ . 30-60-90

Hypotenuse given: 10

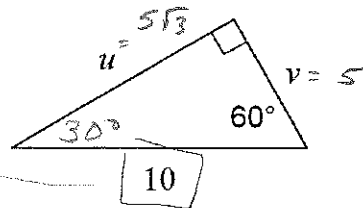
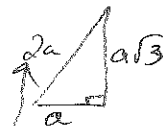
$$\frac{10}{2} = \frac{2a}{2}$$

$$5 = a$$

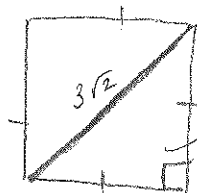
So:

$$v = 5$$

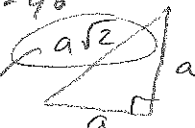
$$u = 5\sqrt{3}$$



2. Find the perimeter of a square whose diagonal measures  $3\sqrt{2}$  cm.

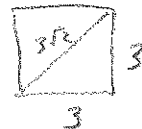


45-45-90



$$\frac{3\sqrt{2}}{\sqrt{2}} = \frac{a\sqrt{2}}{\sqrt{2}}$$

$$3 = a$$



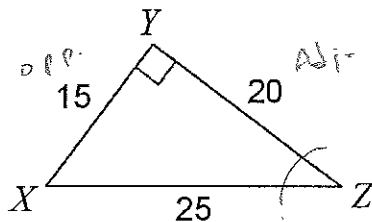
4 sides,  
each is 3  
So perimeter  
is  $12\text{cm}$

SRT-C6b: Refer to the diagram for 3 and 4.

3. What is  $\cos Z$ ? Give your answer in reduced form.

SOH CAH TOA

$$\cos Z = \frac{\text{adj}}{\text{hyp}} = \frac{20}{25} = \frac{4}{5}$$



4. Find the measure of angle Z using inverse trigonometry.

$$\cos Z = \frac{4}{5}$$

$$\arccos \frac{4}{5} = Z$$

using calculator

$$\cos^{-1}(4/5) = Z$$

$$36.869^\circ = Z \approx 37^\circ$$

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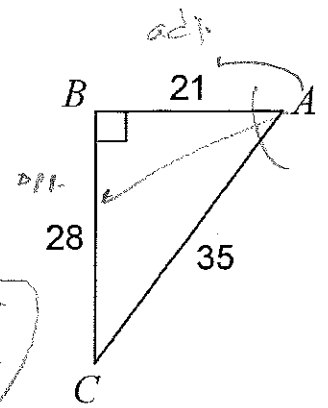
SRT-C7: Refer to the diagram.

5. If  $\sin C = \frac{21}{35}$ , what is  $\cos A$ ? Give both the numerical answer and a written explanation.

$\sin C = \frac{21}{35}$  ← opp  
 ← hyp.

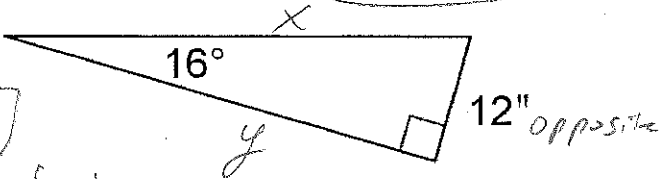
$\cos A = \frac{\text{adj.}}{\text{hyp.}} = \frac{21}{35}$

21 is opposite of  $\angle C$  but is also adjacent to  $\angle A$ . Hyp. is still 35.

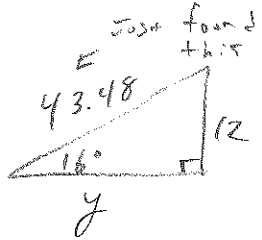


SRT-C8:

6. The figure below represents a side-view of a skateboard ramp 12 inches high with a  $16^\circ$  incline. Find the perimeter of the figure to two decimal places of accuracy.



Step 2



Pythagorean Theorem

$y^2 + 12^2 = 43.48^2$

$y^2 + 144 = 1890.51$

$\sqrt{y^2} = \sqrt{1746.51}$

$y = 41.79$

CALCULATOR

Step 1

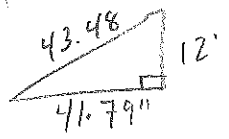
$\sin 16 = \frac{\text{opp}}{\text{hyp}}$

$0.276 = \frac{12}{X}$

$0.276 X = \frac{12}{0.276}$

$X = 43.48 \text{ in.}$

Step 3



[add up all sides]

$97.27''$

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