

2nd period

**VOTE FOR BVILLE'S MARCHING BAND VIDEO
TO HELP WITH THEIR ROSE PARADE EXPENSES!**

1. SCAN THE QR CODE
2. SCROLL DOWN THE PAGE
3. FIND BVILLE'S VIDEO (4TH FROM LEFT)
4. CLICK OR TAP ON THE BLUE ARROW IN THE BOTTOM LEFT CORNER OF THE THUMBNAIL IMAGE TO PLACE A VOTE



- Search tournament of roses video contest
- 1st link
- scroll down/right
- see 4th video
- click & press blue arrow
- VOTE Once a day!

HW 5-4

Tonight's HW in BOOK! Round all answers to nearest tenth.

1. 6 units^2

Do first 3 questions in notes as warm-up.

2. 18 units^2

Mini Quiz tomorrow: Area of Triangle & Law of Sines

3. 11

4. 23.2

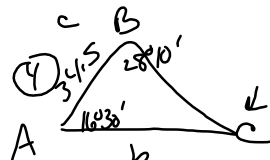
5. $\frac{17}{28}$

6. a) $38^\circ 10'$, b) 17.3 m^2

7. $\frac{7}{10}$

HW 5-4

1. 6 units²
2. 18 units²
3. 11
4. 23.2
5. $\frac{17}{28}$
6. a) 38°10', b) 17.3 m²
7. $\frac{7}{10}$

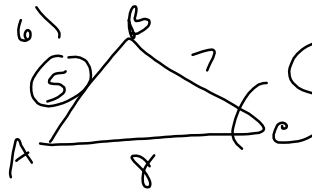


$$\frac{\sin B}{b} = \frac{\sin C}{c}$$

$$180 - 16^\circ 30' - 28^\circ 10' = 135^\circ 20'$$

$$\frac{b}{\sin 28^\circ 10'} = \frac{34.5}{\sin 135^\circ 20'}$$

$$23.2 = \frac{34.5 \sin 28^\circ 10'}{\sin 135^\circ 20'} = b$$



$$5^2 = 7^2 + 8^2 - 2(7)(8)\cos C$$

$$\cos C = \frac{5^2 - 7^2 - 8^2}{-2(7)(8)}$$

$$\cos C = .7857$$

$$C = \cos^{-1}(.7857)$$

$$C \approx 38^\circ 10'$$

$$b) K = \frac{1}{2}ab\sin C$$

$$K = \frac{1}{2}(7)(8)\sin 38^\circ 10' \approx 17.3 \text{ m}^2$$

Dec 5-10:04 PM

Law of sines cosines and area of a triangle
AAS
ASA

SAS, SSS

2) If 3 sides are labeled w/ no more than 1 variable, use the Law of Cosines

Solve for x for each below:

Round answer to nearest hundredth

$$1) \frac{\sin(68^\circ)}{x} = \frac{\sin(37^\circ)}{3}$$

$$x \sin 37^\circ = 3 \sin 68^\circ$$

$$x = \frac{3 \sin 68^\circ}{\sin 37^\circ}$$

$$x = 4.62$$

Find the angle to nearest 10 minutes

$$2) 23^2 = 37^2 + 18^2 - 2(37)(18)\cos(x)$$

$$\cos x = \frac{23^2 - 37^2 - 18^2}{-2(37)(18)}$$

$$\cos x = .8738 \dots$$

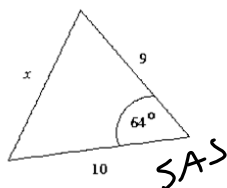
$$x = \cos^{-1}(.8738 \dots)$$

$$\Delta OMS = 29^\circ 5' 16.88''$$

$$\approx 29^\circ 10'$$

Nov 29-9:59 PM

3) USE THE LAW OF SINES OR COSINES TO FIND X: Round to the nearest tenth



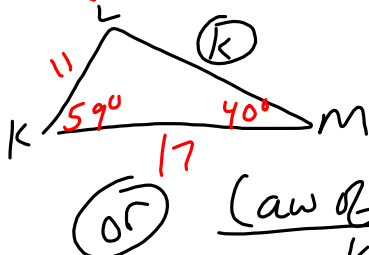
$$\frac{x}{\sin 64^\circ} = \frac{9}{\sin 64^\circ}$$

$$x^2 = 9^2 + 10^2 - 2(9)(10)\cos 64^\circ$$

$$\sqrt{x^2} = \sqrt{102.093 \dots}$$

$$x = 10.1$$

4) In $\triangle KLM$; $m = 11$, $l = 17$, $m\angle K = 59^\circ$ and $m\angle M = 40^\circ$. Find k . Round to the nearest hundredth ~~tenth~~.



Law of Sines

$$\frac{11}{\sin 40^\circ} = \frac{k}{\sin 59^\circ}$$

$$k = \frac{11 \sin 59^\circ}{\sin 40^\circ}$$

$$k \approx 14.7$$

Law of Cosines

$$k^2 = 11^2 + 17^2 - 2(11)(17)\cos 59^\circ$$

$$\sqrt{k^2} = \sqrt{217.375 \dots}$$

$$k = 14.74 \approx 14.7$$

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5) Find the area of the triangle below: Round to the nearest tenth

SAS

$$K = \frac{1}{2} ab \sin C$$

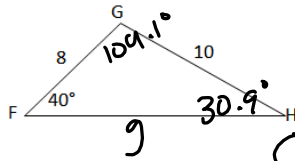
$$K = \frac{1}{2} (4)(7) \sin 135^\circ$$

$$K = 9.89 \approx 9.9 \text{ u}^2$$

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6-7) Solve each triangle by finding all of the missing side lengths and angle measures and find the area of the triangle $\angle G, \angle H, \text{ side } g$

6)



(1) $\angle H$

$$\frac{8}{\sin H} = \frac{10}{\sin 40^\circ}$$

$$\sin H = \frac{8 \sin 40^\circ}{10} = .5142$$

$$H = \sin^{-1}(.5142) = 30.946^\circ \approx 30.9^\circ = \angle H$$

$$(2) \angle G = 180^\circ - 40^\circ - 30.9^\circ = 109.1^\circ = \angle G$$

(3) side g $\frac{g}{\sin 109.1^\circ} = \frac{10}{\sin 40^\circ}$

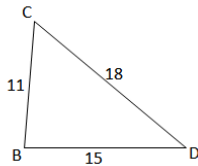
$$g = \frac{10 \sin 109.1^\circ}{\sin 40^\circ} = 14.70079 \approx 14.7 = g$$

(4) Area $K = \frac{1}{2}(8)(14.7) \sin 40^\circ$ $K = \frac{1}{2}(8)(10) \sin 109.1^\circ \approx 37.8 u^2$
 $= 37.7779 \approx 37.8 u^2$

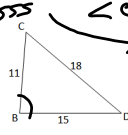
$$K = \frac{1}{2}(10)(14.7) \sin 30.9^\circ = 37.7$$

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7)



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7)  $\angle C, \angle B, \angle D, \text{Area}$ $18^2 =$

(1) $\angle B$ $\cos B = \frac{18^2 - 11^2 - 15^2}{-2(11)(15)} = .066$

$B = \cos^{-1}(.066) =$

$86.177\dots$

$B \approx 86.2^\circ$

store $\rightarrow$ Alpha B

(2) $\angle C$ $\frac{15}{\sin C} = \frac{18}{\sin B}$

$\sin C = \frac{15 \sin B}{18}$

$\sin C = .8314\dots$

$C = \sin^{-1}(.8314\dots)$

$C \approx 56.25$

$C \approx 56.3^\circ$

store $\rightarrow C$

(3) $\angle D$

$= 180 - B - C$

$= 37.575$

$D \approx 37.6^\circ$

(4) $A = 82.3$

$K = \frac{1}{2}(11)(15)\sin B$

$K = 82.3 \text{ u}^2$

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Nov 29-10:00 PM