

3-5-14

Chapter 8 Review

① $\sin \theta = \frac{2}{3}$

$\theta \approx 41.8^\circ$

- ② A right triangle has sides of 3, 4, and 5. What is the angle measurement between the 3 and 5 legs?



$\cos \theta = \frac{3}{5}$

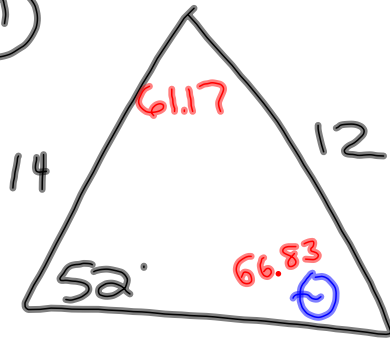
$\sin \theta = \frac{4}{5}$

$\tan \theta = \frac{4}{3}$

$\theta \approx 53.1^\circ$

Hard ? from PT 1

19



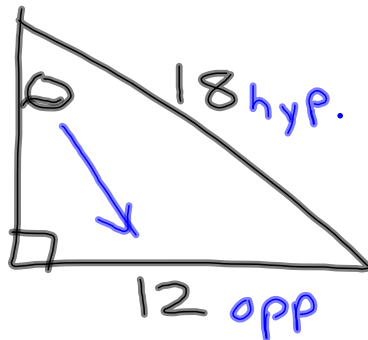
$$\frac{\sin \theta}{14} = \frac{\sin 52}{12}$$

$$\frac{12 \cdot \sin \theta}{12} = \frac{14 \sin 52}{12}$$

$$A = \frac{1}{2} \cdot 14 \cdot 12 \cdot \sin 61.17 \sin^{-1} \sin \theta \approx .919 \dots$$

$$\theta \approx 66.83$$

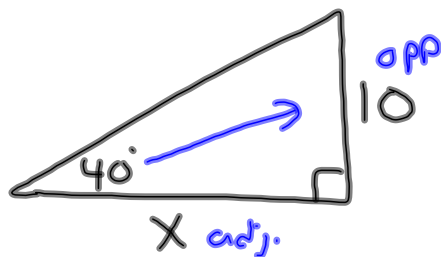
1



$$\sin^{-1} \sin \theta = \frac{\sin^{-1} 12}{18}$$

$$\theta \approx 41.8^\circ$$

2

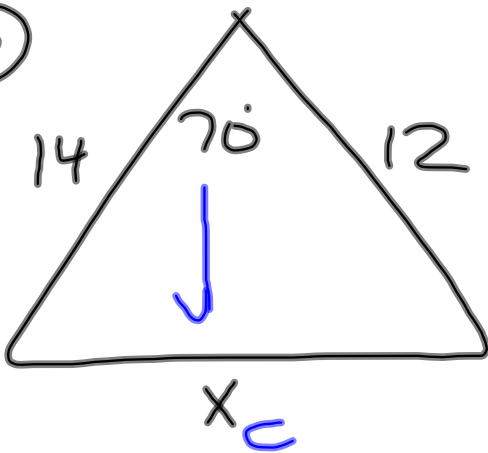


$$\frac{\tan 40^\circ}{1} = \frac{10}{X}$$

$$\frac{X \cdot \tan 40^\circ}{\tan 40^\circ} = \frac{10}{\tan 40^\circ}$$

$$X \approx 11.9$$

(13)



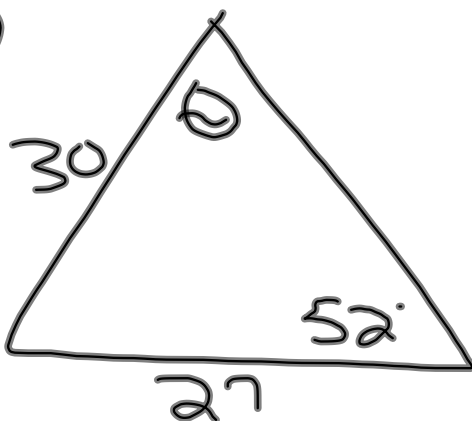
$$c^2 = a^2 + b^2 - 2ab \cos \theta$$

$$x^2 = 14^2 + 12^2 - 2 \cdot 14 \cdot 12 \cdot \cos 70^\circ$$

$$\sqrt{x^2} \approx \sqrt{225.08 \dots}$$

$$x \approx 15$$

(15)



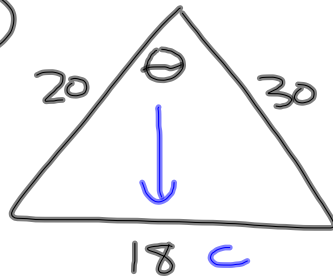
$$\frac{\sin 52^\circ}{30} = \frac{\sin \theta}{27}$$

$$\frac{30 \cdot \sin \theta}{30} = \frac{27 \cdot \sin 52^\circ}{30}$$

$$\sin^{-1} \sin \theta \approx \sin^{-1} .7092 \dots$$

$$\theta \approx 45.2^\circ$$

(18)



$$c^2 = a^2 + b^2 - 2ab \cos \theta$$

$$18^2 = 20^2 + 30^2 - 2 \cdot 20 \cdot 30 \cdot \cos \theta$$

$$324 = 400 + 900 - 1200 \cdot \cos \theta$$

$$324 = 1300 - 1200 \cdot \cos \theta$$

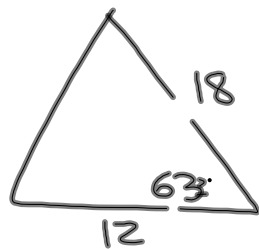
$$\underline{-1300 \quad -1300}$$

$$\underline{-976} = \underline{-1200 \cdot \cos \theta}$$

$$\cos^{-1}\left(\frac{976}{1200}\right) = \cos^{-1} \cos \theta$$

$$35.6^\circ \approx \theta$$

Area of

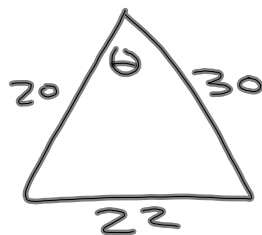


$$A = \frac{1}{2} ab \sin C$$

$$= \frac{1}{2} \cdot 18 \cdot 12 \cdot \sin 63^\circ$$

$$\approx 96.2$$

Area of



$$S = \frac{7^2}{2} = 36$$

$$A = \sqrt{36 \cdot 16 \cdot 6 \cdot 14}$$

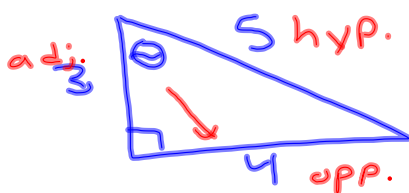
$$\approx 220$$

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ch. 8 test

$$\textcircled{1} \quad \sin^{-1} \sin \theta = \sin^{-1} \frac{1}{8}$$
$$\theta \approx 7.2^\circ$$

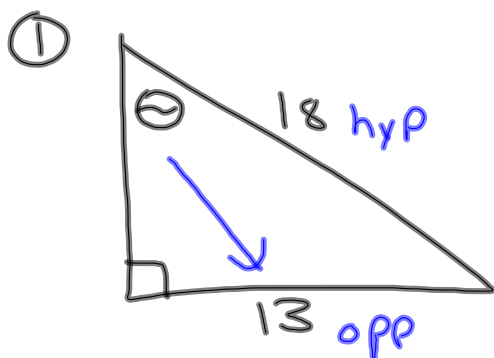
- $\textcircled{2}$ Consider a right \triangle that has sides of 3, 4, and 5. What is the angle measurement between the 3 and 5 legs?



$$\sin \theta = \frac{4}{5} \quad \cos \theta = \frac{3}{5} \quad \tan \theta = \frac{4}{3}$$

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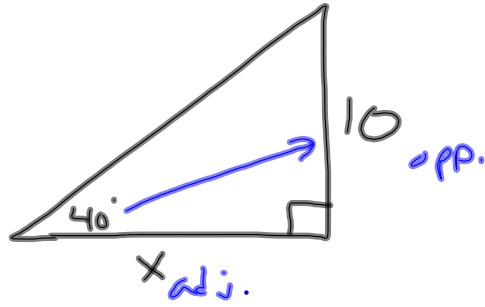
$$\theta \approx 53.1^\circ$$



$$\sin^{-1} \sin \theta = \sin^{-1} \frac{13}{18}$$

$$\theta \approx 46.2^\circ$$

②

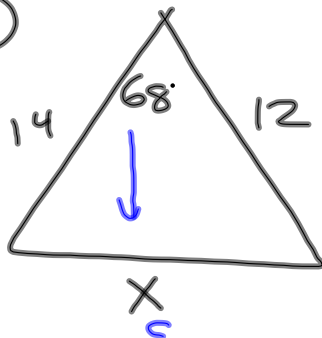


$$\frac{\tan 40^\circ}{1} = \frac{10}{x}$$

$$\frac{x \cdot \tan 40^\circ}{\cancel{\tan 40^\circ}} = \frac{10}{\cancel{\tan 40^\circ}}$$

$$x \approx 11.9$$

⑬

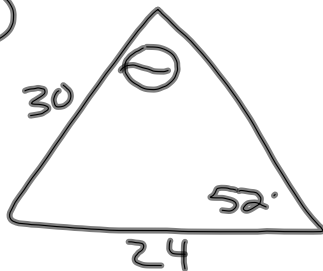


$$c^2 = a^2 + b^2 - 2ab \cos \theta$$

$$x^2 = 14^2 + 12^2 - 2 \cdot 14 \cdot 12 \cdot \cos 68^\circ$$

$$x \approx 14.6$$

⑮

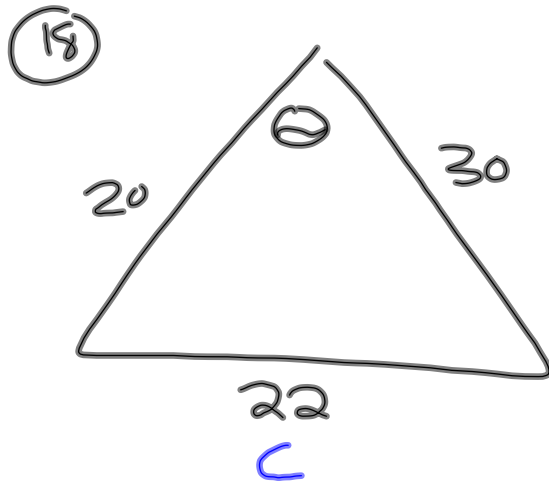


$$\frac{\sin 52^\circ}{30} = \frac{\sin \theta}{24}$$

$$\frac{\cancel{30} \cdot \sin \theta}{\cancel{30}} = \frac{24 \cdot \sin 52^\circ}{30}$$

$$\sin^{-1} \sin \theta \approx \sin^{-1} .636404 \dots$$

$$\theta \approx 39.1$$



$$C^2 = a^2 + b^2 - 2ab \cos \theta$$

$$22^2 = 20^2 + 30^2 - 2 \cdot 20 \cdot 30 \cdot \cos \theta$$

$$484 = 400 + 900 - 1200 \cdot \cos \theta$$

$$484 = 1300 - 1200 \cdot \cos \theta$$

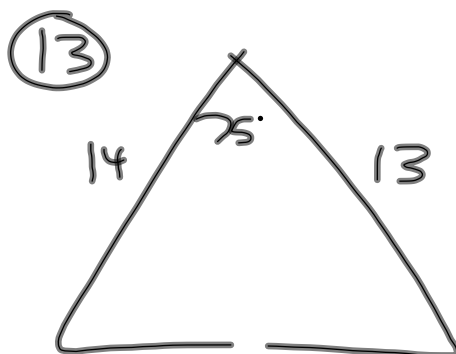
$$\begin{array}{r} -1300 \\ -1300 \end{array}$$

$$\begin{array}{r} -816 \\ -1200 \end{array} = \begin{array}{r} -1200 \\ -1200 \end{array} \cdot \cos \theta$$

$$\cos^{-1} \frac{816}{1200} = \cos^{-1} \theta$$

$$47.2^\circ \approx \theta$$

Find area of figure 13



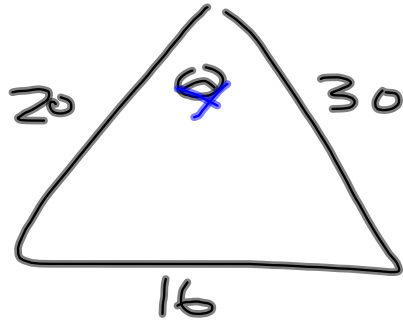
$$A = \frac{1}{2} \cdot a \cdot b \cdot \sin C$$

$$= \frac{1}{2} \cdot 14 \cdot 13 \cdot \sin 75^\circ$$

$$\approx 87.9$$

Area of figure 18

(18)



$$s = \frac{66}{2} = 33$$

$$A = \sqrt{33 \cdot (33 - 20)(33 - 30)(33 - 16)}$$
$$\approx 147.9$$