1-22-19 5th Geo

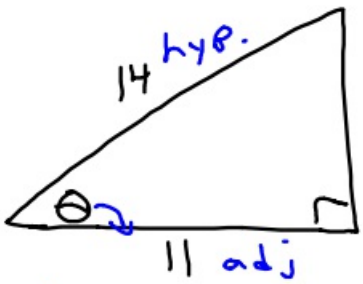
① $2\sqrt{2} \cdot 3\sqrt{6}$

$6\sqrt{12}$

$2 \cdot 6\sqrt{2 \cdot 2 \cdot 3}$

$12\sqrt{3}$

②

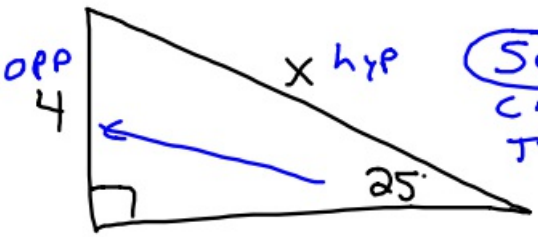


SOH
CAH
TOA

$\cos^{-1} \cos\theta = \cos^{-1} \frac{11}{14}$

$\theta \approx 38.2$

③



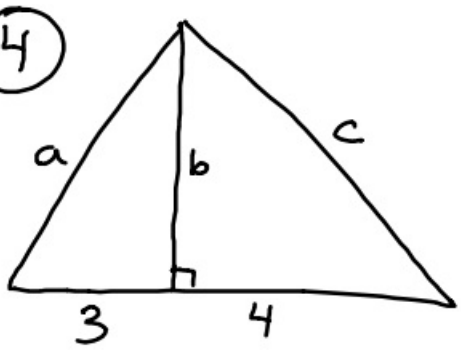
SOH
CAH
TOA

$\frac{\sin 25^\circ}{1} = \frac{4}{x}$

$\frac{x \cdot \sin 25^\circ}{\sin 25^\circ} = \frac{4}{\sin 25^\circ}$

$x \approx 9.5$

④

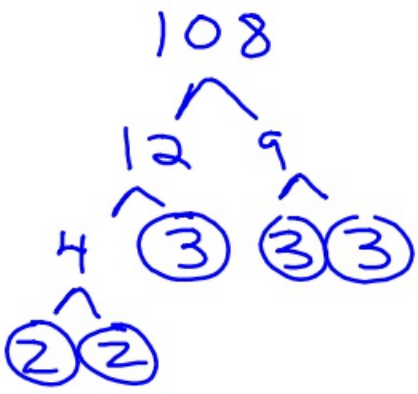


$a = \sqrt{3 \cdot 7} = \sqrt{21}$

$b = \sqrt{3 \cdot 4} = \sqrt{12} = 2\sqrt{3}$

$c = \sqrt{4 \cdot 7} = \sqrt{28} = 2\sqrt{7}$

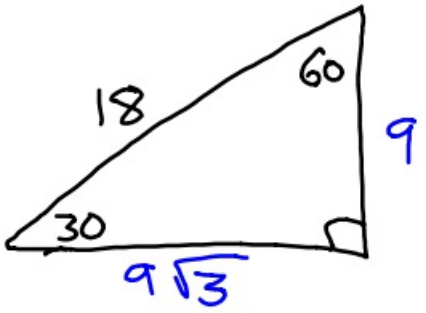
⑤ Simplify $\sqrt{108}$



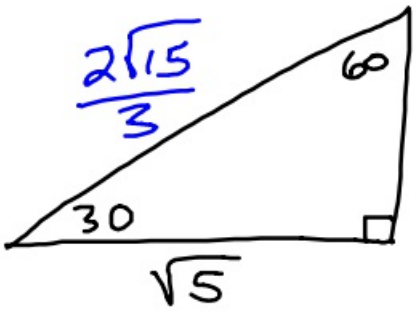
$3 \cdot 2\sqrt{2 \cdot 2 \cdot 3 \cdot 3 \cdot 3}$

$6\sqrt{3}$

⑥



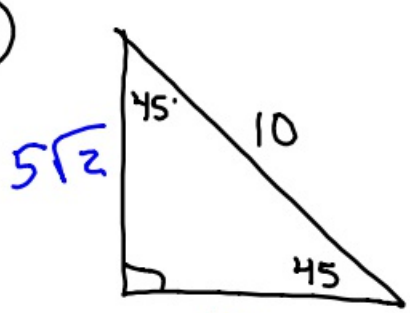
(7)



$\frac{\sqrt{5}}{\sqrt{3}} = \frac{\sqrt{15}}{3}$

$\frac{\sqrt{5}}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{\sqrt{15}}{3}$

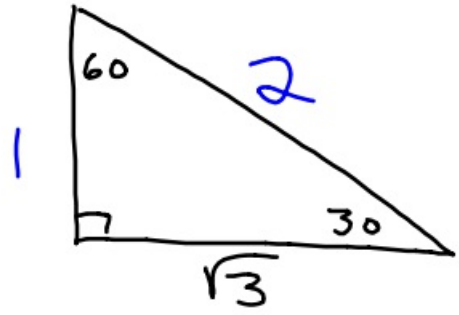
(8)



$\frac{10}{\sqrt{2}} = 5\sqrt{2}$

$\frac{10}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{5\cancel{10}\sqrt{2}}{\cancel{2}_1} = 5\sqrt{2}$

(9)



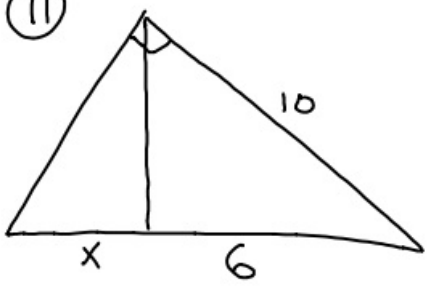
(10) Solve for x:

$$10^2 = \left(\sqrt{3x}\right)^2$$

$$\frac{100}{3} = \frac{3x}{3}$$

$$33\tfrac{1}{3} = x$$

(11)



$$10 = \sqrt{6 \cdot (6+x)}$$

$$10^2 = \left(\sqrt{36+6x}\right)^2$$

$$100 = 36 + 6x$$

$$-36 \quad -36$$

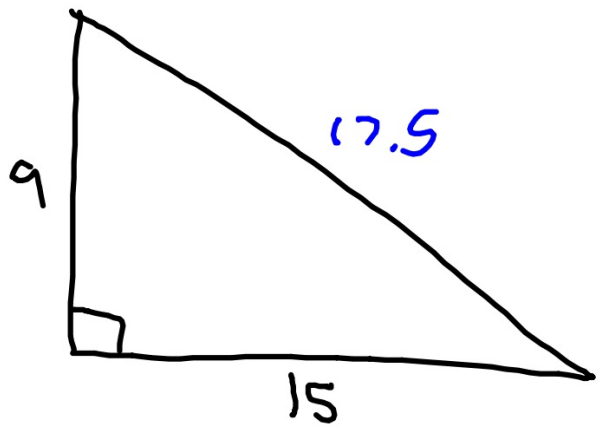
$$\frac{64}{6} = \frac{6x}{6}$$

$$(10.\overline{6})\ 10\tfrac{2}{3} = x$$

(12) $\tan^{-1}\tan\theta = \tan^{-1}\frac{3}{4}$

$\theta \approx 36.9°$

13



$9^2 + 15^2 = c^2$

$c \approx 17.5$

1-22-19 6th Geo

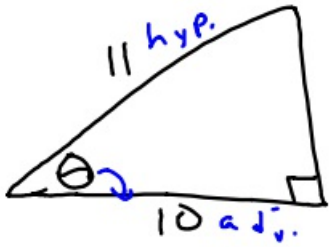
① Simplify $2\sqrt{2} \cdot 3\sqrt{6}$

$6\sqrt{12}$

$2 \cdot 6\sqrt{2 \cdot 2 \cdot 3}$

$12\sqrt{3}$

②

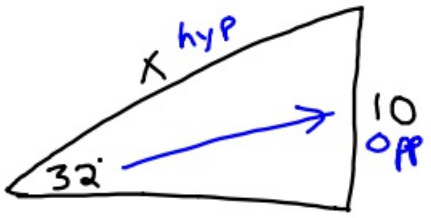


SOH
CAH
TOA

$\cos^{-1} \cos\theta = \cos^{-1}\frac{10}{11}$

$\theta \approx 24.6^\circ$

③



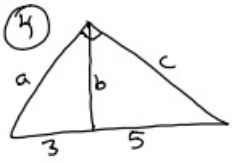
SOH
CAH
TOA

$\frac{\sin 32^\circ}{1} = \frac{10}{x}$

$\frac{x \cdot \sin 32^\circ}{\sin 32^\circ} = \frac{10}{\sin 32^\circ}$

$x \approx 18.9$

(4)



$a = \sqrt{3 \cdot 8} = \sqrt{24} = \sqrt{2 \cdot 2 \cdot 2 \cdot 3} = 2\sqrt{6}$

$b = \sqrt{3 \cdot 5} = \sqrt{15}$

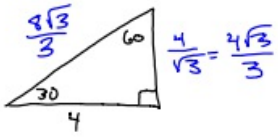
$c = \sqrt{5 \cdot 8} = \sqrt{40} = \sqrt{2 \cdot 2 \cdot 2 \cdot 5} = 2\sqrt{10}$

(5) $\cos^{-1}\cos\theta = \cos^{-1}\frac{1}{4}$

$\theta \approx 75.5^\circ$

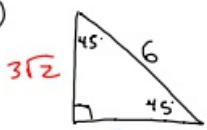
(6)

(7)



$\frac{4}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{4\sqrt{3}}{3}$

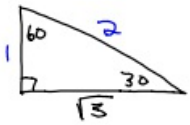
(8)



$\frac{6}{\sqrt{2}} = 3\sqrt{2}$

$\frac{6}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{6\sqrt{2}}{2} = 3\sqrt{2}$

(9)



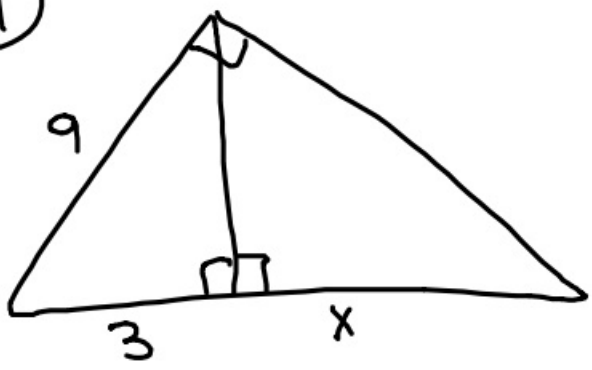
(10) Solve for x:

$$8^2 = \left(\sqrt{2 \cdot x}\right)^2$$

$$\frac{64}{2} = \frac{2x}{2}$$

$$32 = x$$

(11)



$$9 = \sqrt{3 \cdot (3+x)}$$

$$9^2 = \left(\sqrt{9+3x}\right)^2$$

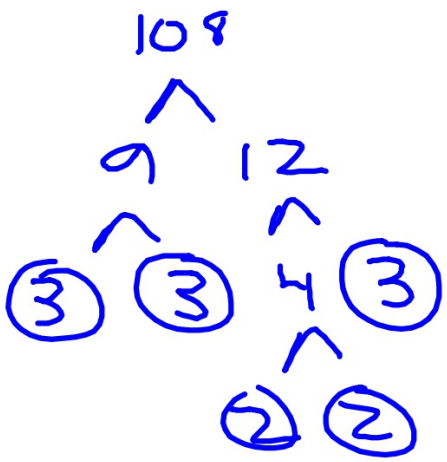
$$81 = 9 + 3x$$

$$-9 \quad -9$$

$$\frac{72}{3} = \frac{3x}{3}$$

$$x = 24$$

(12) Simplify $\sqrt{108}$



$6\sqrt{3}$