

Review Ch. 7 Adv. Geometry Key

① Find Area of the isosceles triangle, write answer in simplest radical form.



$$h^2 + 5^2 = 15^2$$

$$h^2 = 225 - 25$$

$$h = \sqrt{200}$$

$$h = 10\sqrt{2}$$

$$A = \frac{1}{2}(10)(10\sqrt{2})$$

$$A = 50\sqrt{2}$$

① $50\sqrt{2}$

10

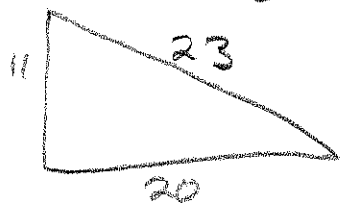
② Find the third side of the Pythagorean Triple given sides 80 and 170.

$$80^2 + x^2 = 170^2$$

$$x^2 = 22500$$

② 150

③ Is this a right, acute or obtuse triangle?



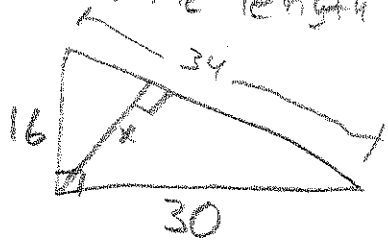
$$11^2 + 20^2 \stackrel{?}{<} 23^2$$

$$521 < 529$$

Obtuse

③ Obtuse

④ Find the length of the altitude drawn to the hypotenuse.

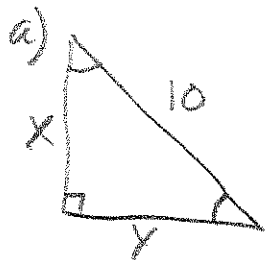


$$\frac{x}{16} = \frac{30}{34}$$

$$x = 14.118$$

④ 14.118

⑤ Find the missing sides in simplest radical form.



$$x = y = \frac{10}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}}$$

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



$$a\sqrt{2} = 9$$

$$a = \frac{9\sqrt{2}}{\sqrt{2}\sqrt{2}} = \frac{9\sqrt{2}}{2}$$

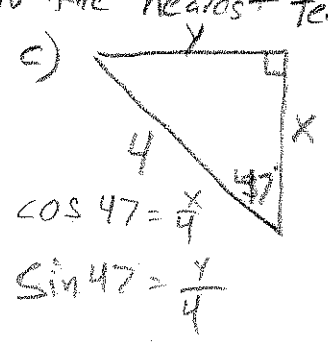
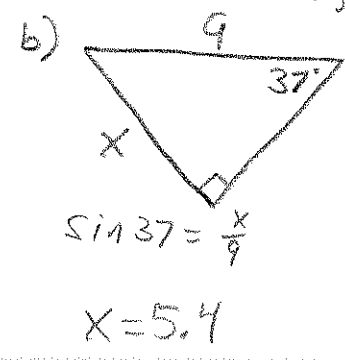
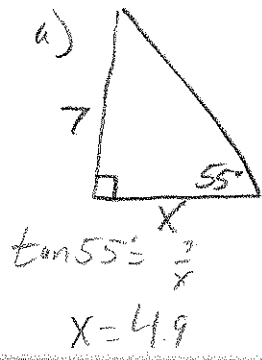
⑤ a) $x = 5\sqrt{2}$

$y = 5\sqrt{2}$

b) $a = 3\sqrt{3}$

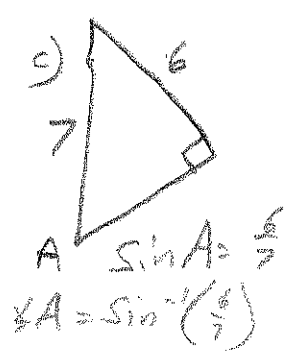
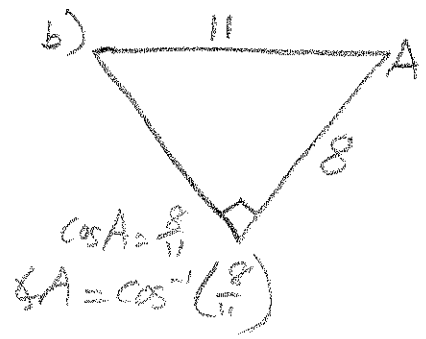
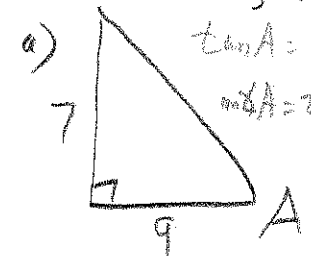
$b = 6\sqrt{3}$

6) Find the value of the variables, round to the nearest tenth.



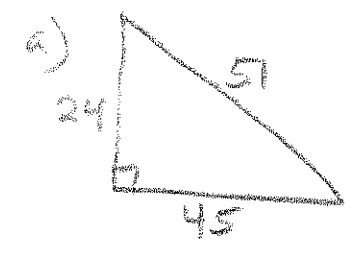
- a) $x = \underline{4.9}$
- b) $x = \underline{5.4}$
- c) $x = \underline{2.7}$
 $y = \underline{2.9}$

7) Find $m\angle A$, round to the nearest tenth.

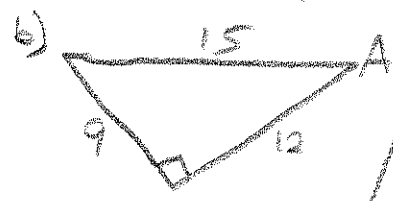


- a) $\underline{37.9^\circ}$
- b) $\underline{43.3^\circ}$
- c) $\underline{59.0^\circ}$

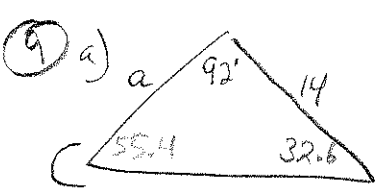
8) what is the value of $\sin A$, $\cos A$ and $\tan A$



$\sin A = \frac{24}{51}$
 $\cos A = \frac{45}{51}$
 $\tan A = \frac{24}{45}$

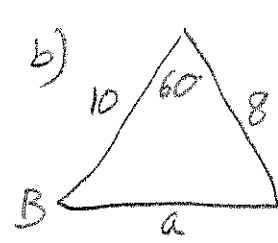


$\sin A = \frac{9}{15}$
 $\cos A = \frac{12}{15}$
 $\tan A = \frac{9}{12}$



$\frac{\sin C}{14} = \frac{\sin 92}{17}$
 $\sin C = \frac{17 \sin 92}{14} = \frac{17 \cdot 32.6}{14}$
 $a = 9.16$

$\sin C = .82303$
 $\angle C = \sin^{-1}(.82303)$
 $\angle C = 55.4$



$a^2 = 10^2 + 8^2 - 2(10)(8)\cos 60$
 $= 164 - 160(\frac{1}{2})$
 $= 164 - 80$
 $\sqrt{a^2} = \sqrt{84} \approx 9.17$

$\frac{\sin B}{8} = \frac{\sin 60}{9.17}$
 $\sin B = .7555$
 $\angle B = \sin^{-1}(.7555)$

9) $m\angle C = \underline{55.4^\circ}$
 $a = \underline{9.16}$
 $a = \underline{9.17}$
 $m\angle B = \underline{49.1^\circ}$