Name _____ Date _____

Chapter 9 Quiz

For use after Section 9.3

#5 FIND HEIGHT

$5^2+h^2=25^2$

$25+h^2=625$

$h^2=600$

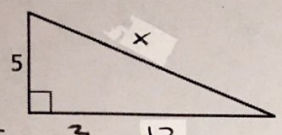
$h=\sqrt{600}$

$A=\frac{1}{2}(10)(\sqrt{600})$

$A=(5)(\sqrt{600})$

$A=122.47$

Find the value of *x*. Tell whether the side lengths form a Pythagorean triple.

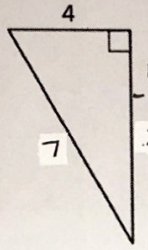
1. 

$5^2+12^2=c^2$

$25+144=c^2$

$\sqrt{169}=\sqrt{c^2}$

$13=c$

2. 

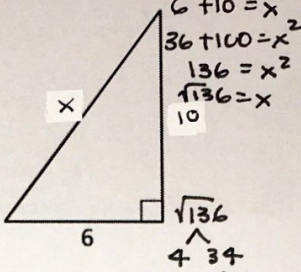
$4^2+x^2=7^2$

$16+x^2=49$

$-16\quad -16$

$\sqrt{x^2}=\sqrt{33}$

$x=\sqrt{33}$

3. 

$6^2+10^2=x^2$

$36+100=x^2$

$136=x^2$

$\sqrt{136}=x$

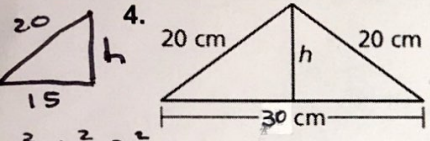
$\sqrt{136}$

$4\ 34$

$2\sqrt{34}$

$2\ 2.11$

Find the area of the isosceles triangle.

4. 

$A=\frac{1}{2}bh$

$A=\frac{1}{2}(30)(\sqrt{175})$

$A=(15)(\sqrt{175})$

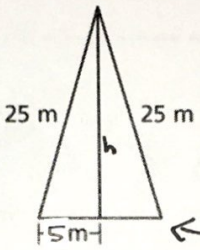
$A=198.43$

$5^2+h^2=20^2$

$25+h^2=400$

$h^2=175$

$h=13.23$

5. 

$b=10$

Verify that the segment lengths form a triangle. Is the triangle *acute*, *right*, or *obtuse*?

6. 9, 12, 18 — OBTUSE

$81+144 \quad 324$

$225 < 324$

7. 9.2, 15.1, 17 — ACUTE

$84.64+228.01 > 289$

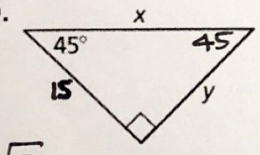
$312.65 > 289$

8. 24, 45, 57 — OBTUSE

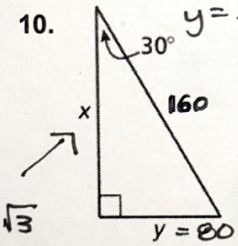
$576+2025 < 3249$

$2601 < 3249$

Find the values of *x* and *y*. Write your answer in simplest form.

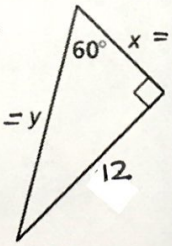
9. 

$15\cdot\sqrt{2}$

10. 

$y=\frac{160}{2}=80$

$80\cdot\sqrt{3}$

11. 

$\frac{12\cdot\sqrt{3}}{\sqrt{3}\cdot\sqrt{3}}=\frac{12\sqrt{3}}{3}=4\sqrt{3}$

$\frac{4\sqrt{3}}{x2}=y$

$8\sqrt{3}$

(multiply then square root)

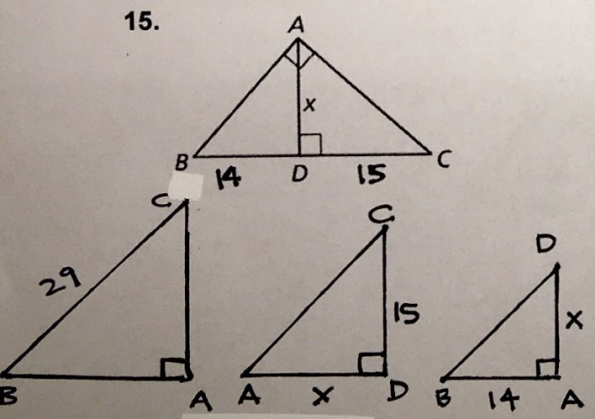
Find the geometric mean of the two numbers.

12. 19 and 49 — $\sqrt{931}=30.51$

13. 16 and 96 — $\sqrt{1536}=39.19$

14. 17 and 90 — $\sqrt{1530}=39.12$

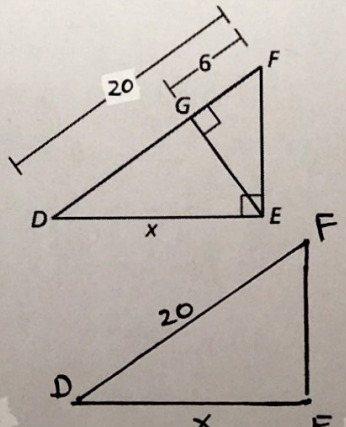
Identify the similar right triangles. Then find the value of the variable.

15. 

$\frac{15}{x}=\frac{x}{14}$

$\sqrt{x^2}=\sqrt{210}$

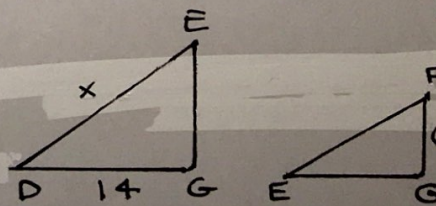
$x=14.49$

16. 

$\frac{20}{x}=\frac{x}{14}$

$\sqrt{x^2}=\sqrt{280}$

$x=16.73$



15. $\triangle BAC \sim \triangle ADC \sim \triangle BAD$

$x \approx 14.49$

16. $\triangle DEF \sim \triangle DGE \sim \triangle EGF$

$x \approx 16.73$