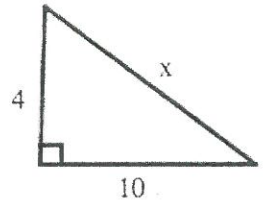
√ RWS #4 Radical Student: _____

1. What integers do the radicals lie between:

a) $\sqrt{200}$ 14 - 15

b. $\sqrt{19}$ 4 - 5

2. Solve for x. Leave answer as simplified radical.



$4^2+10^2=x^2$

$116=x^2$

58, 2

29 · 2 · 2

$2\sqrt{29}$

#3-18, Simplify each of the following

3. $5\sqrt{54}$ $15\sqrt{6}$

4. $\frac{4}{\sqrt{7}}$ $\frac{4\sqrt{7}}{7}$

5. $\frac{\sqrt{72}}{3}$ $\frac{6\sqrt{2}}{3}$ $2\sqrt{2}$

6. $(3\sqrt{7})(5\sqrt{21})$ $15\sqrt{147}$, 7 21, $7 \cdot 7 \cdot 3$, $105\sqrt{3}$

7 $(3+2\sqrt{2})(5-4\sqrt{2})$ $15-12\sqrt{2}+10\sqrt{2}-8\sqrt{4}$, $15-2\sqrt{2}-16$, $-1-2\sqrt{2}$

8. $\frac{1}{3}\sqrt{432}$ 2, 216, 2, 108, 2, 54, 2, 3 3 3, $4\sqrt{3}$

9. $3\sqrt{28}-2\sqrt{63}$ $6\sqrt{7}-6\sqrt{7}$, 0

10. $(5\sqrt{2})^2$ 50

11. $\sqrt{6}(2-\sqrt{5})$ $2\sqrt{6}-\sqrt{30}$

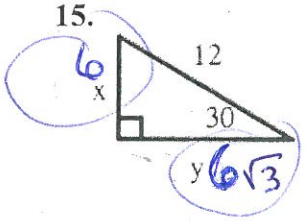
12. $(3\sqrt{7}+2)^2$ $(3\sqrt{7}+2)$, $9\sqrt{49}+12\sqrt{7}+4$, 63, $67+12\sqrt{7}$

13. $-2\sqrt{243}$ 3, 81, $-18\sqrt{3}$

14. $15\sqrt{\frac{1}{9}}$ $\frac{15}{3}$ 5

#15-19, Find the missing sides of the triangles. You can use 30-60-90 and 45-45-90 shortcuts.

15.



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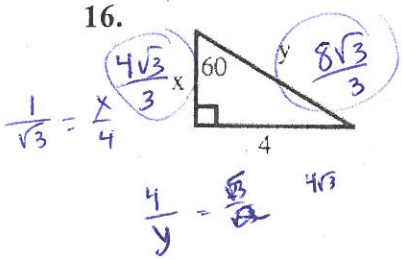
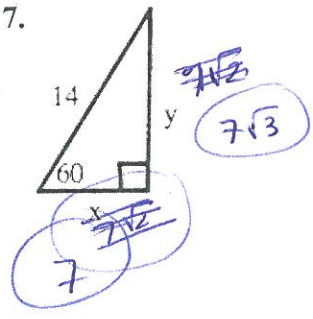
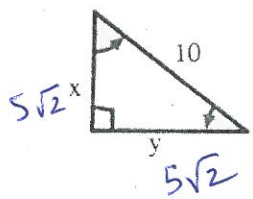


$\frac{1}{\sqrt{3}} = \frac{x}{4}$ $\frac{4}{y} = \frac{\sqrt{3}}{4\sqrt{3}}$

17.



18.



19.