

1. $4\sqrt{6}$

2. $\sqrt{30}$

3. $x = \frac{18}{5}; y = \frac{6\sqrt{34}}{5}$

4. $x = 2\sqrt{5}; y = 2\sqrt{6}$

5. $c = 4\sqrt{13}$

6. $a = \sqrt{527}$

7. $1681 = 1681$ yes

8. $440 \neq 441$ no

9. $x = 6$

10. $x = 15\sqrt{2}$

11. $x = \frac{22\sqrt{3}}{3}$

12. $x = 12\sqrt{3}$

13. altitude = $\frac{13\sqrt{3}}{2}$ cm.

14. perimeter = 68 in.