

4-17. See below.

a. $\theta = 11^\circ$, $\frac{x}{95} \approx \frac{1}{5}$, $x \approx 18.46$

b. $a = b = 45^\circ$

c. $\frac{y}{70} \approx \frac{5}{2}$, $y \approx 175$

4-18. See below.

a. side ratio = 4:1

b. perimeter ratio is 4:1

c. 28'

4-19. See below.

a. Yes, AA ~.

b. No, side ratios not equal $\frac{12}{64} \neq \frac{18}{98}$.

c. Cannot tell, not enough angle values given.

4-20. $\sqrt{6^2 - 3^2} = \sqrt{27}$, $\sqrt{9^2 - 3^2} = \sqrt{72}$. So perimeter is $\sqrt{27} + \sqrt{72} + 15 \approx 28.68$ cm.

The area is $(\sqrt{27} + \sqrt{72})(3) \div 2 \approx 20.52$ sq. cm.

4-21. Since the slope ratio for $11^\circ \approx 0.2$, $AB \approx 50$ feet. The slope ratio for $68^\circ \approx 2.5$, so $BC \approx 4$ feet. Thus, \overline{AB} is actually longer.

4-22. See below.

a. 12

b. Yes

c. $\frac{6}{12} = \frac{1}{2}$; $\frac{8}{12} = \frac{2}{3}$