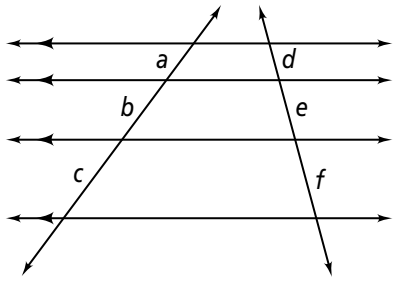
6.5

Proportions in Triangles

Use the figure at the right to complete each proportion.



1. $\frac{a}{c} = \frac{\square}{f}$

2. $\frac{f}{e} = \frac{c}{\square}$

3. $\frac{\square}{c} = \frac{e}{f}$

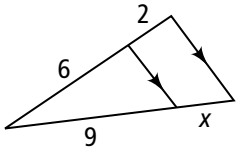
4. $\frac{a}{\square} = \frac{b}{e}$

5. $\frac{a}{b} = \frac{\square}{e}$

6. $\frac{e}{\square} = \frac{f}{c}$

Algebra **Solve for *x*.**

7.



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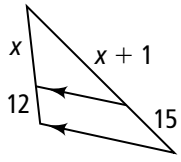

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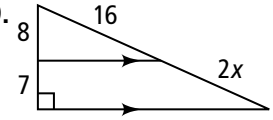

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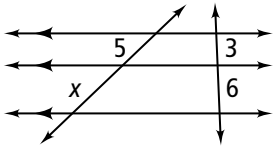

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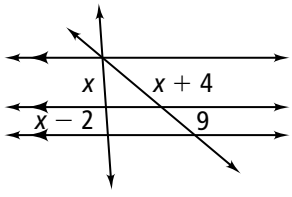

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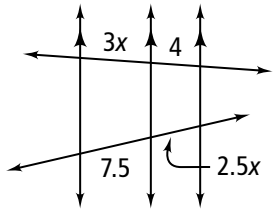

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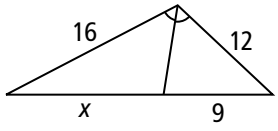

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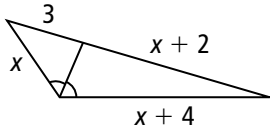

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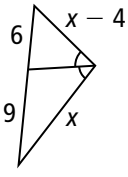

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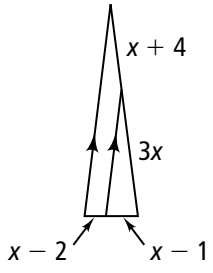

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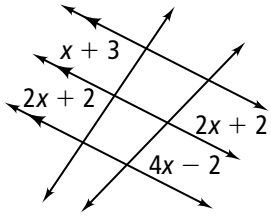

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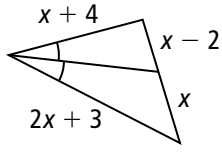


19. Compare and Contrast How is the Triangle-Angle-Bisector Theorem similar to Corollary 2 of Theorem 62? How is it different?

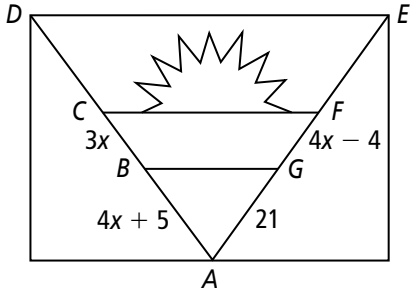
20. Reasoning In $\triangle FGH$, the bisector of $\angle F$ also bisects the opposite side. The ratio of each half of the bisected side to each of the other sides is $1 : 2$. What type of triangle is $\triangle FGH$? Explain.

22. Reasoning An angle bisector of a triangle divides the opposite side of the triangle into segments 3 in. and 6 in. long. A second side of the triangle is 5 in. long. Find the length of the third side of the triangle. Explain how you arrived at the correct length.

23. The flag of Antigua and Barbuda is like the image at the right. In the image, $\overline{DE} \parallel \overline{CF} \parallel \overline{BG}$.

a. An artist has made a sketch of the flag for a mural. The measures indicate the length of the lines in feet. What is the value of x?

b. What type of triangle is $\triangle ACF$? Explain.



E