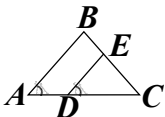


Name: \_\_\_\_\_

Identifying Similar Parts

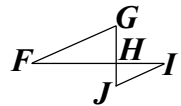
For each problem, list all of the matching angles (single letters) and all of the matching sides (double letters). Then, create the three fraction sets.

1.



Angles	Sides	Side Fractions

2.



Angles	Sides	Side Fractions

3.

$\triangle PQR \sim \triangle JMK$

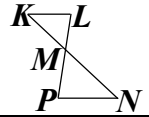
Angles	Sides	Side Fractions

4.

$\triangle ABC \sim \triangle HGF$

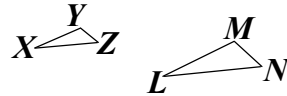
Angles	Sides	Side Fractions

5.



Angles	Sides	Side Fractions

6.



Angles	Sides	Side Fractions

7.

$\triangle KLN \sim \triangle EHG$

Angles	Sides	Side Fractions

8.

$\triangle PAC \sim \triangle MAN$

Angles	Sides	Side Fractions

### Solving Proportions

For each problem, **determine the value of x** (start by cross-multiplying).

9. $\frac{2}{x} = \frac{14}{21}$	10. $\frac{x}{5} = \frac{12}{30}$
11. $\frac{6}{9} = \frac{8}{x}$	12. $\frac{6}{30} = \frac{x}{25}$
13. $\frac{2}{x+8} = \frac{6}{9}$	14. $\frac{1}{4} = \frac{x-7}{12}$
15. $\frac{5}{6} = \frac{15}{x+2}$	16. $\frac{x-4}{3} = \frac{7}{1}$
17. $\frac{4}{x+5} = \frac{3}{x-2}$	18. $\frac{x+7}{3} = \frac{10}{6}$
19. $\frac{x-4}{8} = \frac{x+1}{9}$	20. $\frac{9}{12} = \frac{1}{x+2}$

For each problem below, pick a fraction equation to use, then plug in the given information and **solve for x**.

21. $\triangle ABC \sim \triangle LMN$ <b><math>LN = 21, BC = 2, MN = 14, AC = x</math></b>  $\frac{AB}{BC} = \frac{LM}{MN}$  $\frac{BC}{AC} = \frac{MN}{LN}$  $\frac{AB}{AC} = \frac{LM}{LN}$	22. $\triangle DEF \sim \triangle PRQ$ <b><math>DE = x, DF = 5, PR = 12, PQ = 30</math></b>  $\frac{DE}{EF} = \frac{PR}{RQ}$  $\frac{EF}{DF} = \frac{RQ}{PQ}$  $\frac{DE}{DF} = \frac{PR}{PQ}$	23. $\triangle RST \sim \triangle AMY$ <b><math>ST = 9, AM = 8, RS = 6, MY = x</math></b>  $\frac{RS}{ST} = \frac{AM}{MY}$  $\frac{ST}{RT} = \frac{MY}{AY}$  $\frac{RS}{RT} = \frac{AM}{AY}$
---	---	---