Written Exercises

Complete each statement.

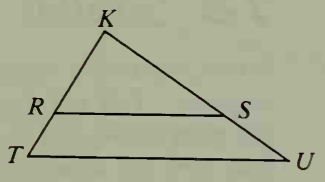
A

1. If $\frac{x}{3} = \frac{2}{5}$, then $5x =$ ___?___.
2. If $\frac{4}{x} = \frac{2}{7}$, then $2x =$ ___?___.
3. If $a:3 = 7:4$, then $4a =$ ___?___.
4. If $4:t = 8:9$, then $8t =$ ___?___.
5. If $\frac{a}{4} = \frac{b}{7}$, then $\frac{a}{b} = \frac{?}{?}$.
6. If $\frac{x}{y} = \frac{3}{8}$, then $\frac{y}{x} = \frac{?}{?}$.
7. If $\frac{x}{2} = \frac{y}{3}$, then $\frac{x+2}{2} =$ ___?___.
8. If $\frac{a}{b} = \frac{5-x}{x}$, then $\frac{a+b}{b} =$ ___?___.

Find the value of x.

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

For the figure shown, it is given that $\frac{KR}{RT} = \frac{KS}{SU}$. Copy and complete the table.



	KR	*RT*	*KT*	*KS*	*SU*	*KU*
21.	12	9	?	16	?	?
22.	8	?	10	12	?	?
23.	16	?	?	?	10	30
24.	?	2	?	9	?	12
B 25.	?	?	12	10	5	?
26.	12	4	?	?	?	20
27.	?	9	36	?	?	48
28.	?	?	30	28	?	42

(*Hint for Ex. 25*: Let $KR = x$, then $RT = 12 - x$.)

29. Show that the proportions $\frac{a+b}{b} = \frac{c+d}{d}$ and $\frac{a}{b} = \frac{c}{d}$ are equivalent.
(Note that this exercise justifies property 1(d) on page 245.)

30. Given the proportions $\frac{x+y}{y} = \frac{r}{s}$ and $\frac{x-y}{x+y} = \frac{s}{y}$, what can you conclude?