

# KEY

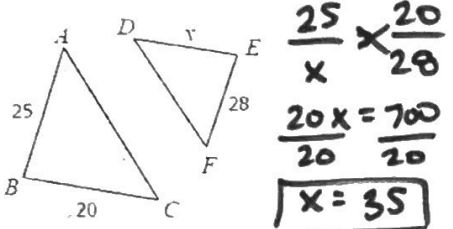
13.  $\frac{x-1}{6} \times \frac{13}{19}$   
 $6(13) = 19(x-1)$   
 $78 = 19x - 19$   
 $+19 \quad +19$   
 $\frac{97}{19} = \frac{19x}{19}$   
 $x = 5.1$

14.  $\frac{5}{17} \times \frac{19}{x+4}$   
 $17(19) = 5(x+4)$   
 $523 = 5x + 20$   
 $-20 \quad -20$   
 $\frac{303}{5} = \frac{5x}{5}$   
 $x = 60.6$

15.  $\frac{10}{2x-9} \times \frac{20}{9}$   
 $9(10) = 20(2x-9)$   
 $90 = 40x - 180$   
 $+180 \quad +180$   
 $\frac{270}{40} = \frac{40x}{40}$   
 $x = 6.75$

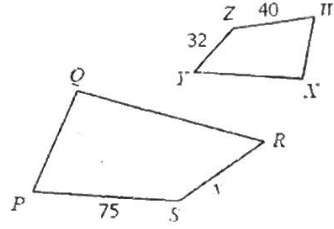
16.  $\frac{12}{18} \times \frac{3x+4}{15}$   
 $12(15) = 18(3x+4)$   
 $180 = 54x + 72$   
 $-72 \quad -72$   
 $108 = 54x$   
 $\frac{108}{54} = \frac{54x}{54}$   
 $x = 2$

6. If  $\triangle ABC \sim \triangle DEF$ , find the value of  $x$ .



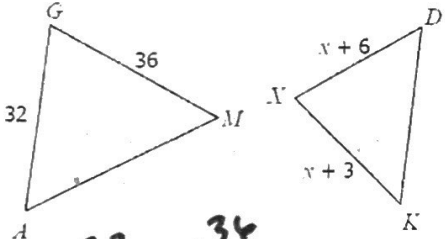
$\frac{25}{x} \times \frac{20}{28}$   
 $\frac{20x}{20} = \frac{700}{20}$   
 $x = 35$

7. If  $PQRS \sim RXYZ$ , find the value of  $x$ .



$\frac{75}{40} \times \frac{x}{32}$   
 $\frac{40x}{40} = \frac{2400}{40}$   
 $x = 60$

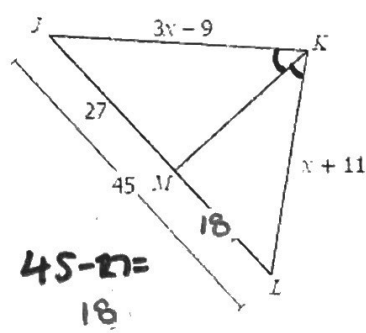
8. If  $\triangle GMA \sim \triangle KYD$ , find the value of  $x$ .



$\frac{32}{x+3} \times \frac{36}{x+6}$   
 $32(x+6) = 36(x+3)$   
 $32x + 192 = 36x + 108$   
 $-32x \quad -32x$   
 $84 = 4x$   
 $\frac{84}{4} = \frac{4x}{4}$   
 $x = 21$

$192 = 4x + 108$   
 $-108 \quad -108$   
 $84 = 4x$   
 $\frac{84}{4} = \frac{4x}{4}$   
 $x = 21$

10.

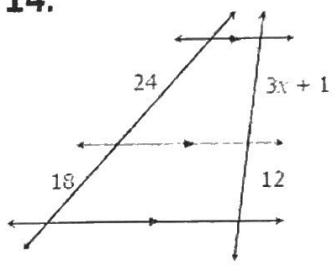


$45 - 27 = 18$

$x = 17$

$\frac{27}{18} \times \frac{3x-9}{x+11}$   
 $27(x+11) = 18(3x-9)$   
 $27x + 297 = 54x - 162$   
 $+162 \quad +162$   
 $27x + 459 = 54x$   
 $-27x \quad -27x$   
 $189 = 27x$   
 $\frac{189}{27} = \frac{27x}{27}$   
 $x = 7$

14.

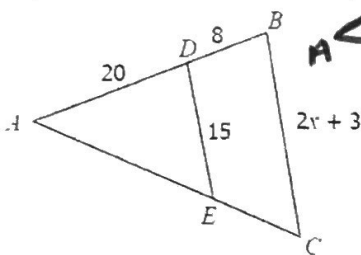


$x = 5$

$\frac{24}{18} \times \frac{3x+1}{12}$   
 $24(12) = 18(3x+1)$   
 $288 = 54x + 18$   
 $-18 \quad -18$   
 $\frac{270}{54} = \frac{54x}{54}$   
 $x = 5$

(Front)  $\frac{459}{27} = \frac{27x}{27}$   
 $x = 17$

4.  $\triangle ABC \sim \triangle ADE$



$$\frac{20}{28} \times \frac{15}{2x+3}$$

$$28(15) = 40x + 60$$

$$420 = 40x + 60$$

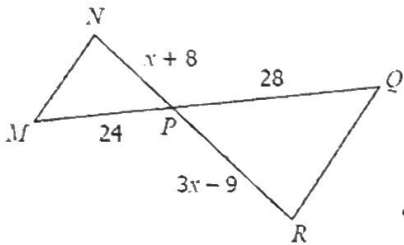
$$-60 \quad -60$$

$$360 = 40x$$

$$\frac{360}{40} = \frac{40x}{40}$$

$$x = 9$$

5.  $\triangle MNP \sim \triangle QRP$



$$\frac{x+8}{3x-9} \times \frac{24}{28}$$

$$28(x+8) = 24(3x-9)$$

$$28x + 224 = 72x - 216$$

$$-28x \quad -28x$$

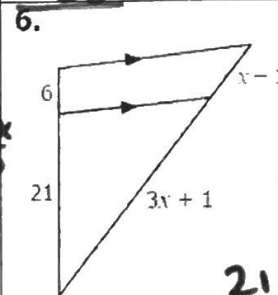
$$224 = 44x - 216$$

$$+216 \quad +216$$

$$440 = 44x$$

$$\frac{440}{44} = \frac{44x}{44}$$

$$x = 10$$



$$\frac{6}{21} \times \frac{x-1}{3x+1}$$

$$21(x-1) = 6(3x+1)$$

$$21x - 21 = 18x + 6$$

$$+21 \quad +21$$

$$21x = 18x + 27$$

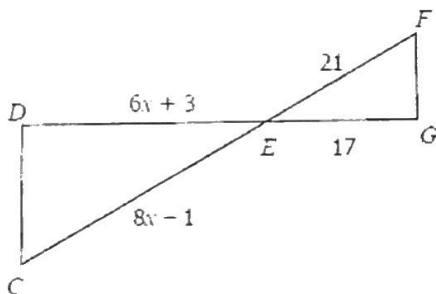
$$-18x \quad -18x$$

$$3x = 27$$

$$\frac{3x}{3} = \frac{27}{3}$$

$$x = 9$$

9.  $\triangle CDE \sim \triangle FGE$



$$\frac{21}{8x-1} \times \frac{17}{6x+3}$$

$$17(8x-1) = 21(6x+3)$$

$$136x - 17 = 126x + 63$$

$$+17 \quad +17$$

$$136x = 126x + 80$$

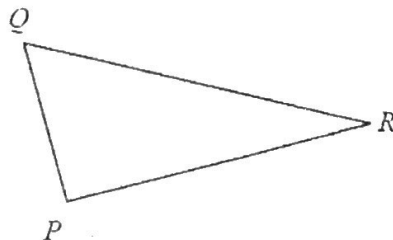
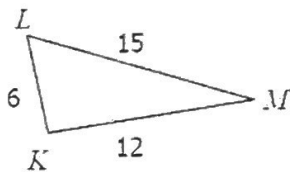
$$-126x \quad -126x$$

$$10x = 80$$

$$\frac{10x}{10} = \frac{80}{10}$$

$$x = 8$$

10. If  $\triangle KLM \sim \triangle PQR$  with a scale factor of 3:5, find the perimeter of  $\triangle PQR$ .



$$6\left(\frac{5}{3}\right) = 10$$

$$12\left(\frac{5}{3}\right) = 20$$

$$15\left(\frac{5}{3}\right) = 25$$

$$10 + 20 + 25 = 55$$