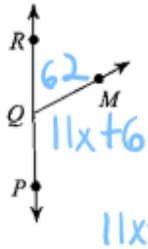
Geometry

Name_____

Line, Triangle, and Angle Properties

Date_____

1) Find x if $m\angle MQP = 11x + 6$, $m\angle RQM = 62°$, and $m\angle RQP = 17x + 8$.



17x+8

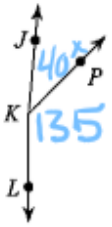
$11x+6+62=17x+8$

$11x+68=17x+8$

$60=6x$

$10=x$

2) Find x if $m\angle JKP = 40x$, $m\angle PKL = 135°$, and $m\angle JKL = 174x + 1$.



174x+1

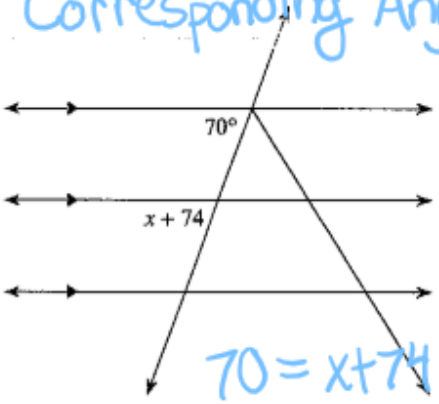
$40x+135=174x+1$

$134=134x$

$1=x$

Identify the property type and then solve for x.

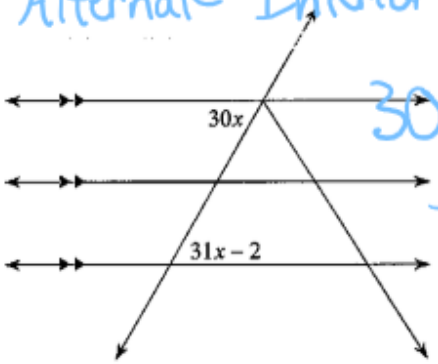
3) Corresponding Angles



$70=x+74$

$x=-4$

4) Alternate Interior ∠'s

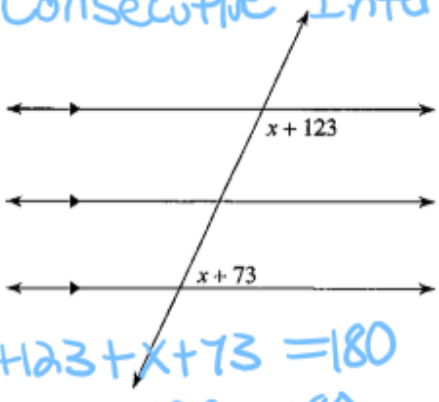


$30x=31x-2$

$-x=-2$

$x=2$

5) Consecutive Interior



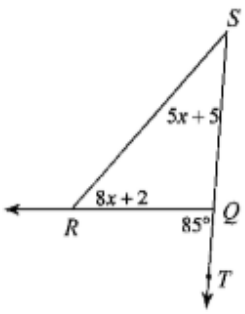
$x+123+x+73=180$

$2x+196=180$

$2x=-16$

$x=-8$

6)



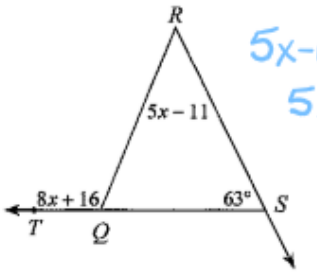
$5x+5+8x+2=85$

$13x+7=85$

$13x=78$

$x=6$

7)



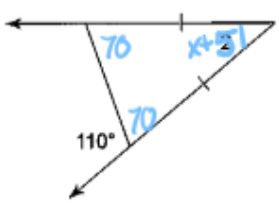
$5x-11+63=8x+16$

$5x+52=8x+16$

$36=3x$

$12=x$

8) $m\angle 2 = x + 51$

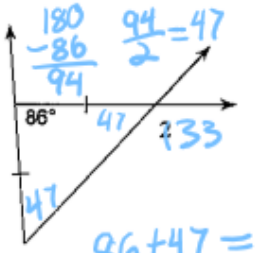


$70+70+x+51=180$

$x+191=180$

$x=-11$

9) $m\angle 2 = x + 139$



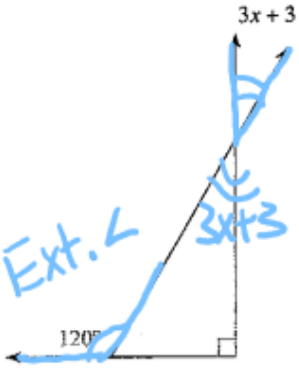
$180-86=94$, $\frac{94}{2}=47$

$86+47=x+139$

$133=x+139$

$-6=x$

10)



$90+3x+3=120$

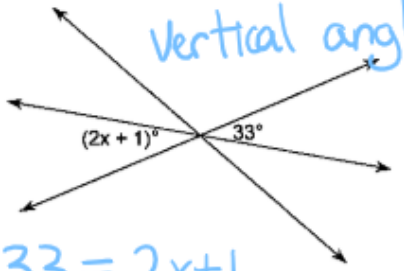
$-90 \quad -90$

$3x+3=30$

$x=9$

Find the value of x.

11)

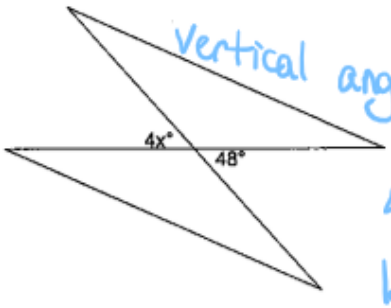


Vertical angles

$33=2x+1$

$32=2x \rightarrow x=16$

12)

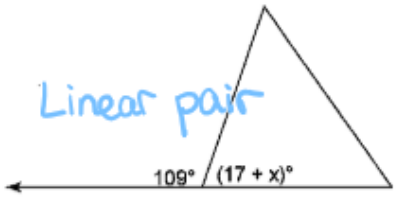


Vertical angles

$48=4x$

$12=x$

13)



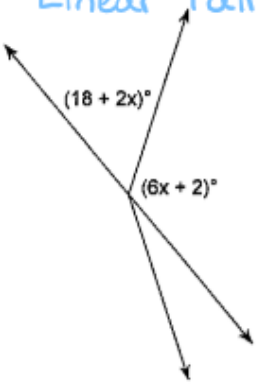
Linear pair

$109+17+x=180$

$126+x=180$

$x=54$

14) Linear Pair



$6x+2+18+2x=180$

$8x+20=180$

$8x=160$

$x=20$