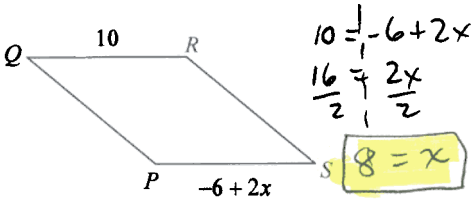
Practice 5.2

Solve for *x*. Each figure is a parallelogram.

1)

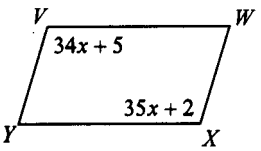


$10 = -6 + 2x$

$\frac{16}{2} = \frac{2x}{2}$

$8 = x$

2)



$35x + 2 = 34x + 5$

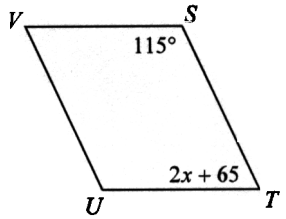
$-34x \quad -34x$

$x + 2 = 5$

$-2 \quad -2$

$x = 3$

3)



$2x + 65 + 115 = 180$ CLT

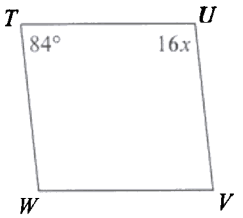
$2x + 180 = 180$

$-180 \quad -180$

$\frac{2x}{2} = \frac{0}{2}$

$x = 0$

4)



$16x + 84 = 180$

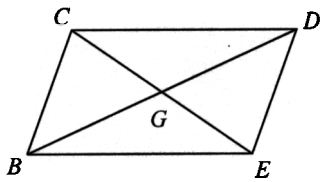
$-84 \quad -84$

$\frac{16x}{16} = \frac{96}{16}$

$x = 6$

5) $CE = 46$

$GE = 3x - 10$



$GE = \frac{1}{2}CE$

$3x - 10 = \frac{1}{2}(46)$

$3x - 10 = 23$

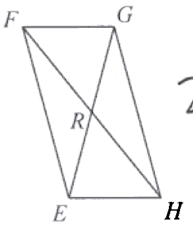
$+10 \quad +10$

$3x = 33$

$x = 11$

6) $RH = 12$

$FH = 13x - 2$



$RH = \frac{1}{2}FH$

$2 \cdot 12 = \frac{1}{2}(13x - 2) \cdot 2$

$24 = 13x - 2$

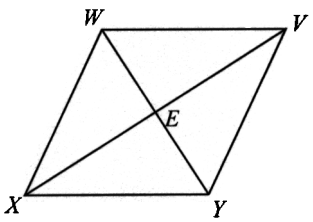
$+2 \quad +2$

$26 = 13x$

$2 = x$

7) $XE = 2x + 2$

$EV = 3x - 4$



$XE = EV$

$2x + 2 = 3x - 4$

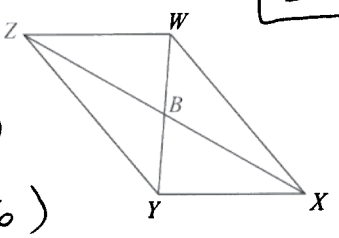
$-2x \quad -2x$

$2 = x - 4$

$6 = x$

8) $XZ = 28$

$BZ = 2x - 6$



$XZ = 2(BZ)$

$28 = 2(2x - 6)$

$28 = 4x - 12$

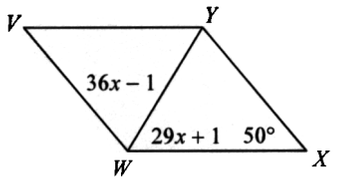
$+12 \quad +12$

$40 = 4x$

$x = 10$

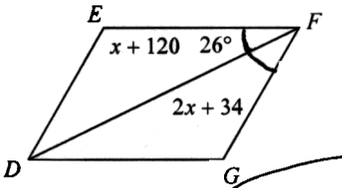
Find the measurement indicated in each parallelogram.

9) Find $m\angle V$



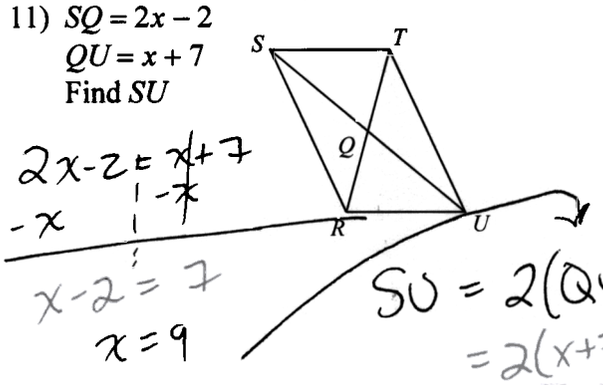
$36x-1+29x+1+50=180$
$65x+50=180$
$65x=130$
$x=2$
$m\angle V = m\angle X$
$m\angle V = 50°$

10) Find $m\angle EFG$



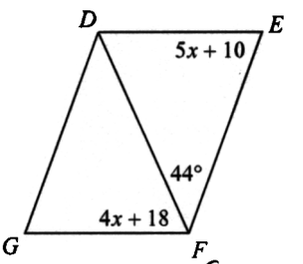
$x+120+26+2x+34=180$
$3x+180=180$
$-180\ \ -180$
$3x=0$
$x=0$
$m\angle EFG = 180 - m\angle E$
$= 180-(x+120)$
$= 180-120$
$m\angle EFG = 60°$

11) $SQ = 2x-2$
$QU = x+7$
Find SU



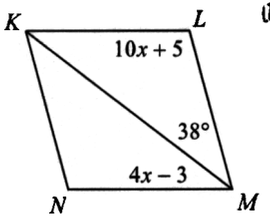
$2x-2=x+7$
$-x\ \ -x$
$x-2=7$
$x=9$
$SU = 2(QU)$
$= 2(x+7)$
$= 2(9+7)$
$SU = 32$

12) Find $m\angle G$



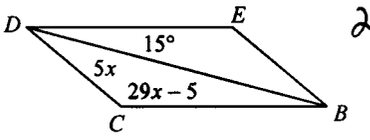
$5x+10+44+4x+18=180$
$9x+72=180$
$9x=108$
$x=12$
$m\angle G = m\angle E$
$m\angle G = 5x+10$
$= 5(12)+10$
$m\angle G = 70°$

13) Find $m\angle KMN$



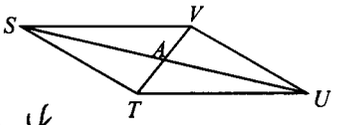
$10x+5+38+4x-3=180$
$14x+40=180$
$14x=140$
$x=10$
$m\angle KMN = 4x-3$
$= 4(10)-3$
$m\angle KMN = 37°$

14) Find $m\angle CDE$



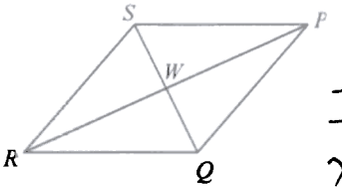
$29x-5+5x+15=180°$
$34x+10=180$
$34x=170$
$x=5$
$m\angle CDE = 5x+15$
$= 25+15$
$m\angle CDE = 40°$

15) $UA = 3x+3$
$AS = 4x-4$
Find UA



$3x+3=4x-4$
$-3x\ \ -3x$
$3=x-4$
$7=x$
$UA = 3x+3$
$= 3(7)+3$
$UA = 24$

16) $QW = 2x-1$
$WS = x+4$
Find QW



$2x-1=x+4$
$-x\ \ -x$
$x-1=4$
$x=5$
$QW = 2x-1$
$= 2(5)-1$
$QW = 9$