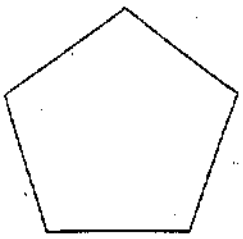
Geometry

Review Unit 5

Find the measure of one interior angle in each regular polygon. Round your answer to the nearest tenth if necessary.

1)



$(5-2)180$

$\frac{540}{5} = 108°$

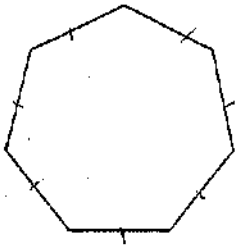
2) regular 18-gon

$(18-2)180$

$\frac{2880}{18} = 160°$

Find the measure of one exterior angle in each regular polygon. Round your answer to the nearest tenth if necessary.

3)



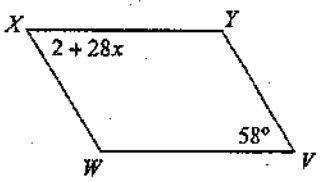
$\frac{360}{7} = 51.4°$

4) regular pentagon

$\frac{360}{5} = 72°$

Solve for x. Each figure is a parallelogram.

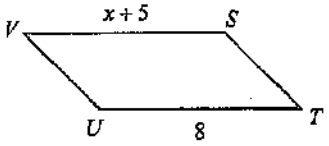
5)



$2+28x=58$

$x=2$

6)

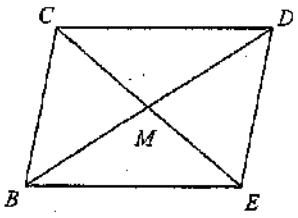


$x+5=8$

$x=3$

Find the measurement indicated in each parallelogram.

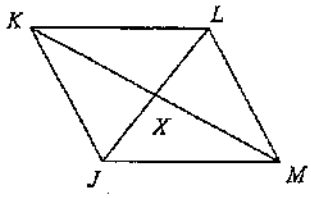
7) $EM = 4x - 2$
$CE = 7x - 1$
Find CM



$2(4x-2) = 7x-1$
$8x-4 = 7x-1$
$x = 3$

$CM = 4(3)-2$
$\boxed{CM = 10}$

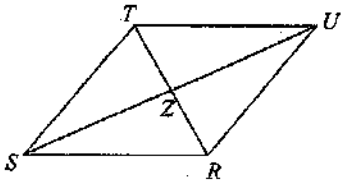
8) $KX = -9 + 2x$
$KM = 3x - 9$
Find KM



$2(-9+2x) = 3x-9$
$-18+4x = 3x-9$
$x = 9$

$KM = 3(9)-9$
$\boxed{KM = 18}$

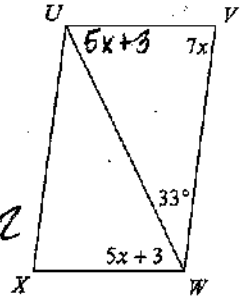
9) $SZ = -11 + 2x$
$SU = 2x + 2$
Find SU



$2(-11+2x) = 2x+2$
$-22+4x = 2x+2$
$2x = 24$
$x = 12$

$SU = 2(12)+2$
$\boxed{SU = 26}$

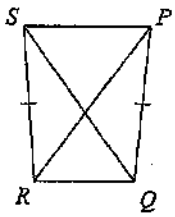
10) Find $m\angle V$



$(5x+3)+(7x)+33 = 180$
$12x+36 = 180$
$x = 12$
$m\angle V = 7(12) = \boxed{84°}$

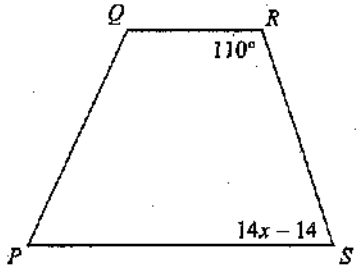
Solve for x. Each figure is a trapezoid.

11) $PR = 16$
$QS = 5x - 14$



$5x-14 = 16$
$\boxed{x = 6}$

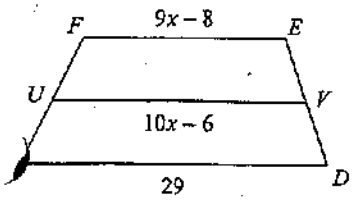
12)



$14x-14+110 = 180$
$14x+96 = 180$
$14x = 84$
$\boxed{x = 6}$

Find the length of the midsegment of each trapezoid.

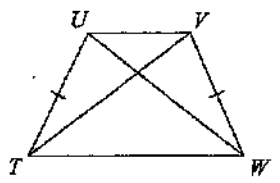
13)



$\frac{9x-8+29}{2} = 10x-6$
$9x+21 = 20x-12$
$11x = 33$
$x = 3$
$10(3)-6 = \boxed{24}$

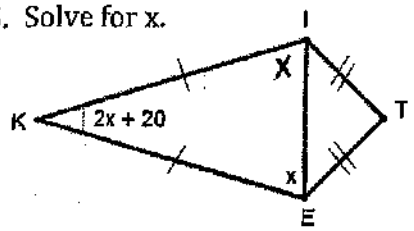
Find the length of the diagonal indicated for the trapezoid.

14) $UW = 2x + 6$
$TV = 3x - 3$
Find UW



$2x+6 = 3x-3$
$x = 9$
$UW = 2(9)+6 = \boxed{24}$

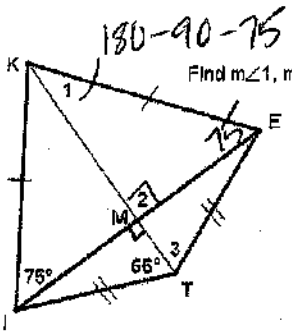
15. Solve for x.



$4x+20=180$

$\boxed{x=40}$

16.



Find m∠1, m∠2 and m∠3.

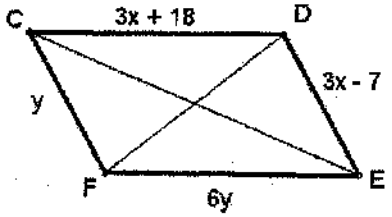
$m\angle 1 = 15^\circ$

$m\angle 2 = 90^\circ$

$m\angle 3 = 66^\circ$

Set up and solve for x and y using a system of linear equations. Assume CDEF is a parallelogram.

17.



$3x+18=6y \quad 3x-7=y$

$3x-6y=-18$

$-(3x-y=7)$

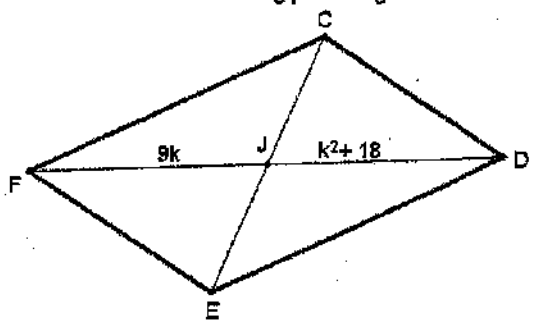
$-5y=-25$

$\boxed{y=5}$

$3x-7=5 \quad \boxed{x=4}$

Set up and solve a quadratic equation to find the value of x in the following parallelogram.

18.



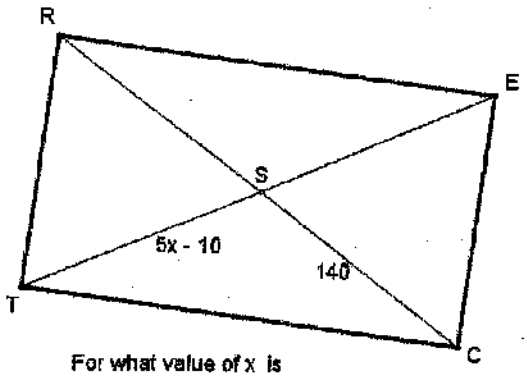
$k^2+18=9k$

$k^2-9k+18=0$

$(k-6)(k-3)=0$

$\boxed{k=6 \text{ or } 3}$

19.

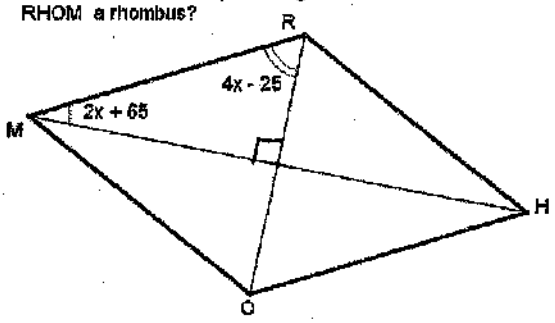


For what value of x is parallelogram RECT a rectangle?

$5x-10=140$

$\boxed{x=30}$

20. For what value of x is parallelogram RHOM a rhombus?



$(2x+65)+(4x-25)=90$

$6x+40=90$

$\boxed{x=8.3}$