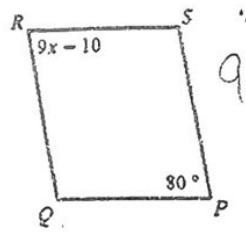
Geometry | Unit 1 | Test – REVIEW

Name: Emma K. Date:

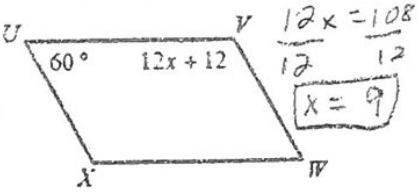
PARALLELOGRAM:

1. x = 10



$9x - 10 = 80$
$+10 \quad +10$
$\frac{9x}{9} = \frac{90}{9}$
$x = 10$

2. x = 9

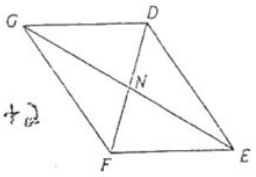


$\frac{12x}{12} = \frac{108}{12}$
$x = 9$

$12x + 12 + 60 = 180$
$12x + 72 = 180$
$-72 \quad -72$
$12x = 108$

3. x = 8

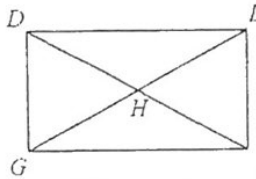
$EN = 3x - 6$
$NG = 2x + 2$



$3x - 6 = 2x + 2$
$-2x \quad -2x$
$x - 6 = 2$
$+6 \quad +6$
$x = 8$

RECTANGLE:

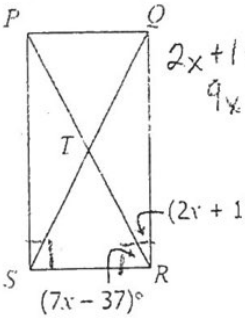
4. x = 11



$*HF = 2x - 1$
$*DF = 7x - 35$

$2(2x - 1) = 7x - 35$
$4x - 2 = 7x - 35$
$-4x \quad -4x$
$-2 = 3x - 35$
$+35 \quad +35$
$\frac{33}{3} = \frac{3x}{3}$
$11 = x$

5. x = 14



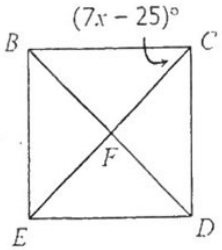
$2x + 1 + 7x - 37 = 90$
$9x - 36 = 90$
$+36 \quad +36$
$9x = 126$
$x = 14$

6. x = 3

$14x - 17 = 8x + 1$
$-8x \quad -8x$
$6x - 17 = 1$
$+17 \quad +17$
$6x = 18$
$x = 3$

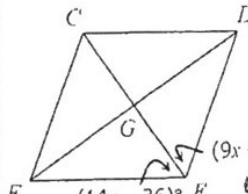
RHOMBUS & SQUARE:

7. x = 10



$7x - 25 = 45$
$+25 \quad +25$
$\frac{7x}{7} = \frac{70}{7}$
$x = 10$

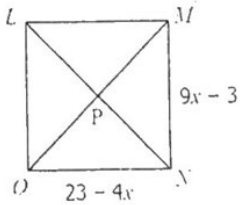
8. x = 7



$\frac{35}{5} = \frac{5x}{5}$
$7 = x$

$9x - 1 = 14x - 36$
$-9x \quad -9x$
$-1 = 5x - 36$
$+36 \quad +36$
$35 = 5x$

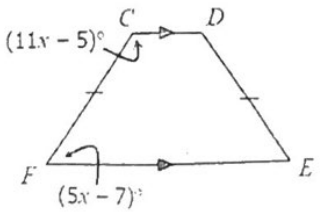
9. x = 2



$9x - 3 = 23 - 4x$
$+4x \quad +4x$
$13x - 3 = 23$
$+3 \quad +3$
$\frac{13x}{13} = \frac{26}{13}$
$x = 2$

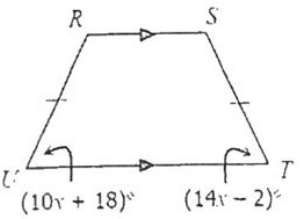
ISOSCELES TRAPEZOID:

10. x = 12



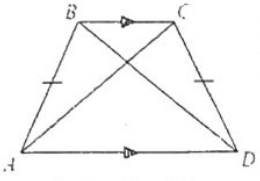
$11x - 5 + 5x - 7 = 180$
$16x - 12 = 180$
$+12 \quad +12$
$16x = 192$
$x = 12$

11. x = 5



$10x + 18 = 14x - 2$
$-10x \quad -10x$
$18 = 4x - 2$
$+2 \quad +2$
$\frac{20}{4} = \frac{4x}{4}$
$x = 5$

12. x = 7



$*AC = 8x - 33$
$*BD = 37 - 2x$

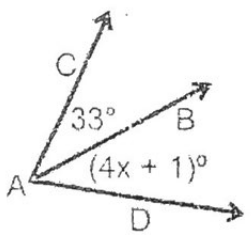
$8x - 33 = 37 - 2x$
$+2x \quad +2x$
$10x - 33 = 37$
$+33 \quad +33$
$\frac{10x}{10} = \frac{70}{10}$
$x = 7$

ermine whether each statement is ***always***, ***sometimes*** or ***never*** true:

13. A rectangle is a parallelogram. Always
14. A parallelogram is a rhombus. sometimes
15. A square is a rhombus. Always
16. A rhombus is a rectangle. Never
17. A parallelogram is a trapezoid. Sometimes
18. A trapezoid is a quadrilateral. Always

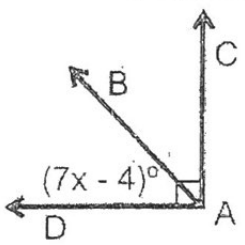
$\overrightarrow{AB}$ **is an angle bisector:**

19. x = 8



$4x+1=33$
$-1 \quad -1$
$\frac{4x}{4}=\frac{32}{4}$
$x=8$

20. x = 7



$(7x-4)=45$
$+4 \quad +4$
$\frac{7x}{7x}=\frac{49}{7}$
$x=7$

COMPLEMENTARY & SUPPLEMENTARY:

21. One angle is 14° less than it's complement. m∠1 = 52 & m∠2 = 38

$\angle 1 = x$
$\angle 2 = x-14$

$x+x-14=90$
$2x-14=90$
$+14 \quad +14$
$2x=104$

$\frac{2x}{2}=\frac{104}{2}$
$x=52$

$52-14=38$

22. ∠1 & ∠2 are supplementary. ∠1 = 12x + 9 & m∠2 = 9x + 3; m∠1 = 105 & m∠2 = 75

$12x+9+9x+3=180$
$21x+12=180$
-12
$21x=168$

$\frac{21x}{21}=\frac{168}{21}$
$x=8$

$12(8)+9=105$
$9(8)+3=75$

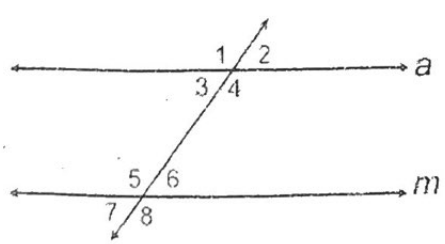
23. ∠1 & ∠2 are complementary. ∠1 = 6x + 1 & m∠2 = 2x + 9; m∠1 = 61 & m∠2 = 29

$6x+1+2x+9=90$
$8x+10=90$
$-10 \quad -10$
$8x=80$

$\frac{8x}{8}=\frac{80}{8}$
$x=10$

$6(10)+1=61$
$2(10)+9=29$

24. Line m is parallel to line a. Identify pairs of angles with the following relationships:



SUPPLEMENTARY	CONGRUENT	
$\angle 1+\angle 2=180$	$\angle 1 \cong \angle 4$	$\angle 3 \cong \angle 7$
$\angle 3+\angle 4=180$	$\angle 2 \cong \angle 3$	$\angle 4 \cong \angle 8$
$\angle 1+\angle 3=180$	$\angle 5 \cong \angle 8$	$\angle 1 \cong \angle 8$
$\angle 2+\angle 4=180$	$\angle 6 \cong \angle 7$	$\angle 2 \cong \angle 7$
$\angle 5+\angle 6=180$	$\angle 1 \cong \angle 5$	
$\angle 7+\angle 8=180$	$\angle 2 \cong \angle 6$	
$\angle 5+\angle 7=180$		
$\angle 6+\angle 8=180$		