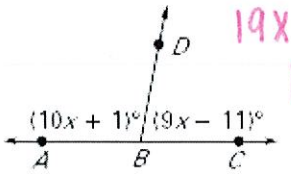
GSE Geometry | Unit 1 – Angles and Parallelograms | Review Guide

Name _____ Date _____

UNIT 1 TEST REVIEW

Missing Angles: Solve for x.

1.



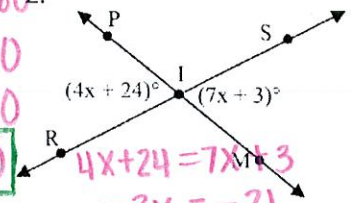
$10x+1+9x-11=180$

$19x-10=180$

$19x=190$

$x=10$

2.

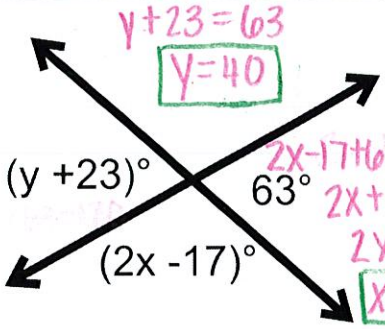


$4x+24=7x+3$

$-3x=-21$

$x=7$

3.



$y+23=63$

$y=40$

$2x-17+63=180$

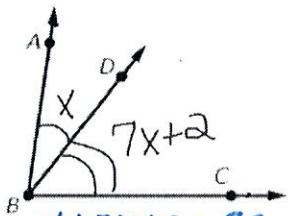
$2x+46=180$

$2x=134$

$x=67$

Solve for x.

4. ∠ABC measures 82°



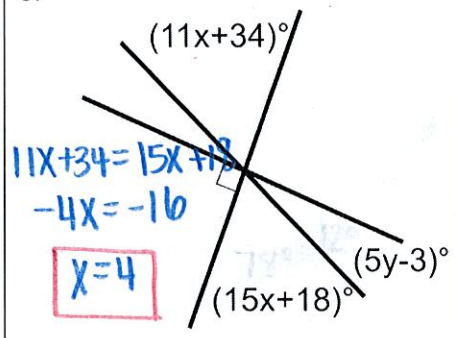
$x+7x+2=82$

$8x+2=82$

$8x=80$

$x=10$

5.



$11x+34=15x+18$

$-4x=-16$

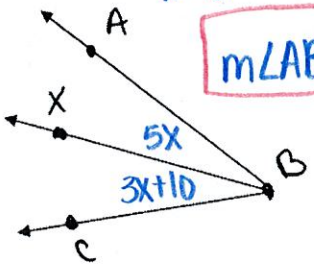
$x=4$

6. $\overline{BX}$ is an angle bisector.
$m\angle ABX = 5x$, $m\angle XBC = 3x+10$,
find $m\angle ABC$

$5x=3x+10$ $m\angle ABX=25°$

$2x=10$

$x=5$



$m\angle ABC=50°$

7. ∠1 and ∠2 are complementary. Solve for x and the measure of both angles.

$\angle 1 = 12x + 4$

$\angle 2 = 9x + 2$

$12x+4+9x+2=90$

$21x+6=90$

$21x=84$

$x=4$

$\angle 1=12(4)+4$

$m\angle 1=52°$

$90-52=\angle 2$

$m\angle 2=38°$

8. The measure of one angle is 24° less than the measure of its supplement. Find the measure of each angle.

$\angle 1=x$

$\angle 2=x-24$

$x+x-24=180$

$2x-24=180$

$2x=204$

$x=102$

$m\angle 1=102°$

$180-102=\angle 2$

$m\angle 2=78°$

9. One of two supplementary angles is 123° less than twice its supplement. Find the measure of both angles.

$\angle 1=x$

$\angle 2=2x-123$

$x+2x-123=180$

$3x-123=180$

$3x=303$

$x=101$

$m\angle 1=101°$

$180-101=\angle 2$

$m\angle 2=79°$

Parallel Lines:

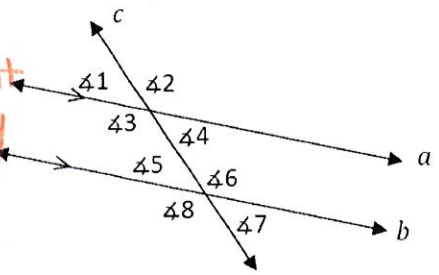
Name the angles listed and the special property.

10. ∠1 and ∠5 Corresponding ∠s; congruent

11. ∠4 and ∠6 Consec. int. ∠s; supplementary

12. ∠2 and ∠8 Alt. ext. ∠s; congruent

13. ∠4 and ∠5 Alt. int. ∠s; congruent



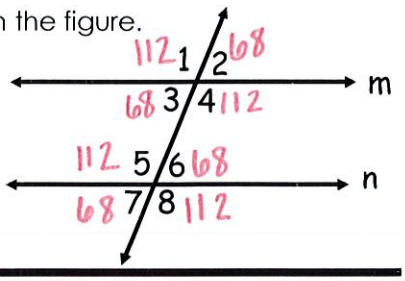
14. Given m | | n and m∠8, find the measures of all the numbered angles in the figure.

m∠8 = 112°

m∠1 = 112° m∠2 = 68°

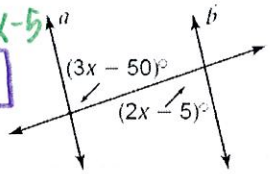
m∠3 = 68° m∠4 = 112°

m∠5 = 112° m∠6 = 68° m∠7 = 68°

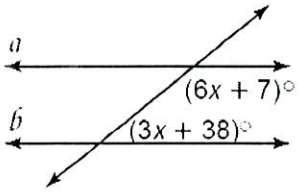


Solve for x.

15. $3x-50=2x-5$ $x=45$



16.



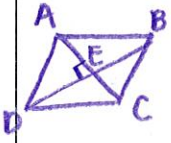
$6x+7+3x+38=180$

$9x+45=180$

$9x=135$

$x=15$

17. In rhombus ABCD the diagonals meet at point E. If ∠AEB = 5x - 15°, find x.

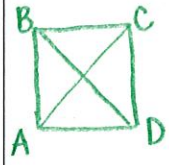


$5x-15=90$

$5x=105$

$x=21$

18. In square ABCD $\overline{AC} = 6x-13$ and $\overline{BD} = 3x+26$. Find x.

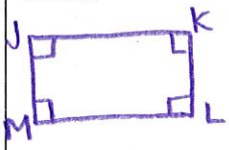


$6x-13=3x+26$

$3x=39$

$x=13$

19. In rectangle JKLM ∠K = 4x+7. Find x.



$4x+7=90$

$4x=83$

$x=20.75$

20. Kite WZYA

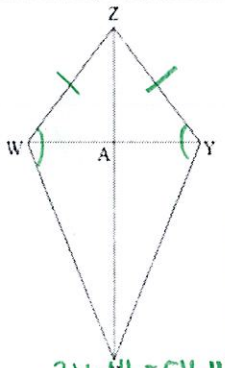
WZ=2x+12

ZY = 4x – 17

m∠W = 3y -14

m∠Y = 5y - 42

Find x & y.



$2x+12=4x-17$

$-2x=-39$

$x=19.5$

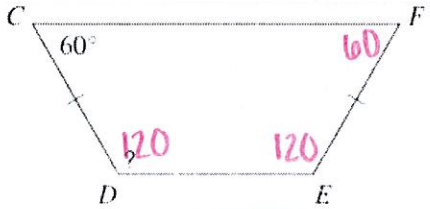
$3y-14=5y-42$

$-2y=-28$

$y=14$

21. Find m∠D and m∠F.

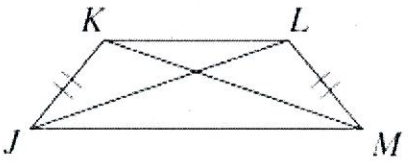
$180-60=120$



$m\angle D=120°$

$m\angle F=60°$

22. $\overline{KM} = 4x+37$ and $\overline{JL} = 5x+11$ Find x.



$4x+37=5x+11$

$-x=-26$

$x=26$

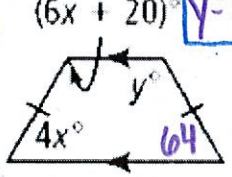
23. Find x & y

$6x+20+4x=180$

$10x+20=180$

$10x=160$

$x=16$



$y=180-64$

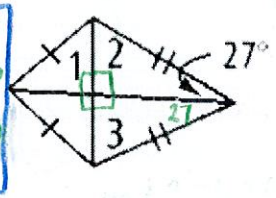
$y=116$

24. Find angles 1,2, & 3. $90-27=63$

$m\angle 1=90°$

$m\angle 2=63°$

$m\angle 3=63°$



25. Find x.

$3x-3=x+5$

$2x=8$

$x=4$