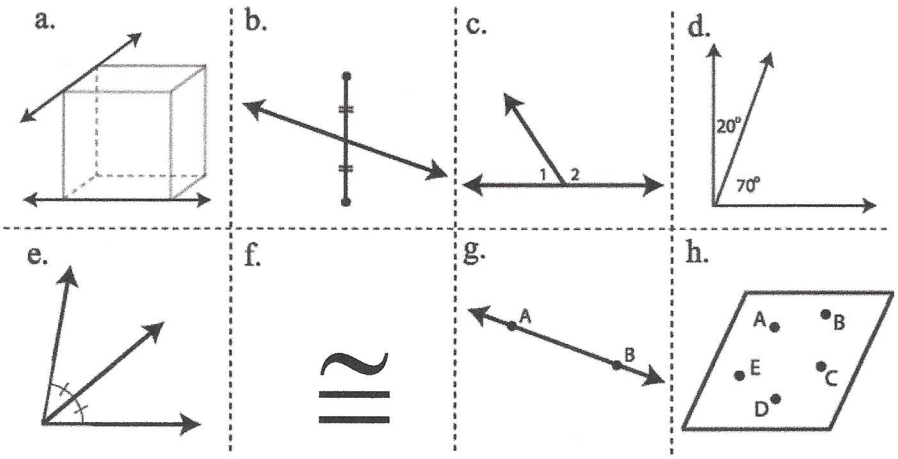
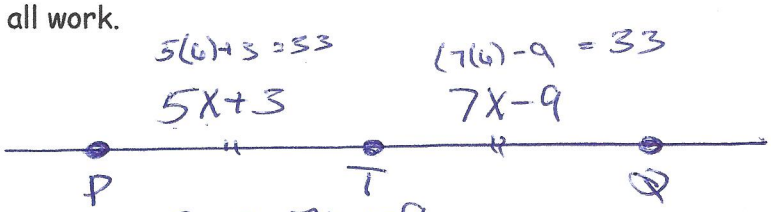
Unit 5: Geometry Pre-Unit Assessment Name: KEY

*For problems 1 – 8, match the following terms with their corresponding picture.*

1. g Line AB
2. c Linear pair angles
3. h Coplanar points
4. f Congruent (symbol)
5. a Skew lines
6. d Complementary angles
7. b Segment bisector
8. e Angle bisector




9. If T is the midpoint of $\overline{PQ}$, PT = 5x + 3, TQ = 7x – 9, find x, PT, TQ, and PQ. Draw the figure and show all work.




$5x+3 = 7x-9$
$-2x = -12$
$x = 6$

x = 6
PT = 33
TQ = 33
PQ = 66

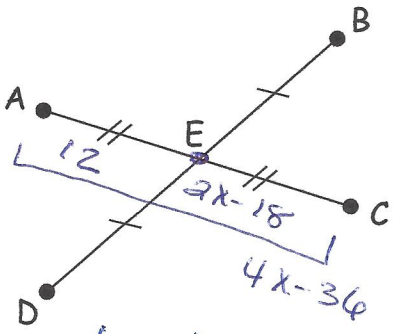
10. If AE = 12 and AC = 4x – 36, find x, EC, and AC.

x = 15
EC = 12
AC = 24

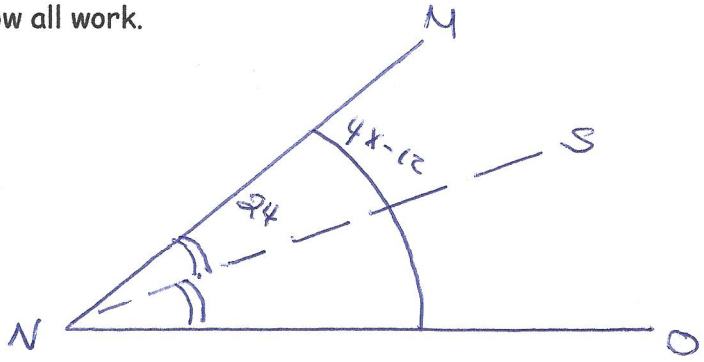
$(2x-18)+12 = 4x-36$
$2x-6 = 4x-36$
$+30 = 2x$
$15 = x$

OR

$24 = 4x-36 \rightarrow 60 = 4x$
$15 = x$




11. If $\overrightarrow{NS}$ bisects ∠MNO, m∠MNS = 24, and m∠MNO = 4x – 12, find x and m∠MNO. Draw the figure and show all work.



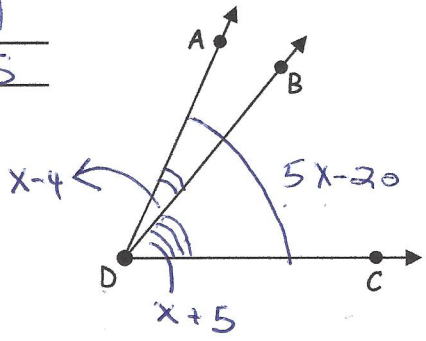

x = 9
m∠MNO = 48

$4x-12 = 48 \rightarrow 4x = 36, \quad x = 9$

12. $m\angle ADC = 5x - 20$, $m\angle ADB = x - 4$, $m\angle BDC = x + 5$. Find x and $m\angle ADC$.

x = 7

$m\angle ADC$ = 15




$(x-4)+(x+5)=5x-20$

$2x+1=5x-20$

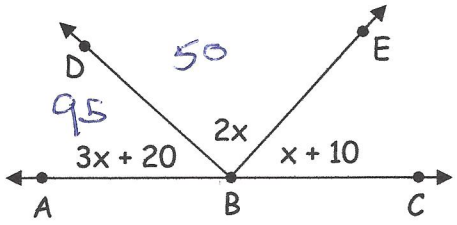
$21=3x$

$7=x$

13. In the picture to the right, find x and $m\angle ABE$.

x = 25

$m\angle ABE$ = 145




3X+20

2X

X + 10

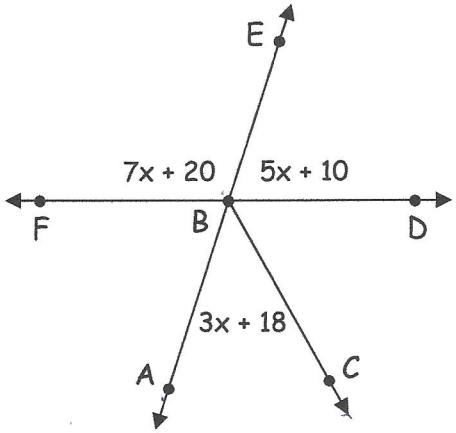
$6x+30=180$

$6x=150,\ x=25$

14. In the picture to the right, find x and $m\angle ABC$.

x = ~~12~~ 12.5

$m\angle ABC$ = ~~48~~ 55.5




7X+20

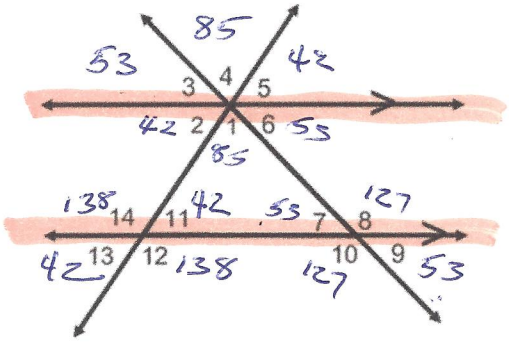
5X+10

$12x+30=180$

$12x=180$

$x=$ ~~12~~ 12.5

15. If the $m\angle 3 = 53°$ and $m\angle 4 = 85°$ find all the angles.




Explain how you determined $m\angle 7$. 9 is an interior to 3

7 is vertical angle of 9

so equal