I

1. If it is a wizard, Then it wears a long, point hat & carry staffs

converse: If it wears a long pointed hat & carry a staff, $\Rightarrow$ it is a wizard

inverse: If it is not a wizard, $\Rightarrow$ it does not wear a long pointed hat & carry staffs.

contrapositive: If it does not wear a long, pointed hat & carry a staff $\Rightarrow$ it is not a wizard.

2. If you are small-minded $\Rightarrow$ you have racial prejudices

converse: If you have racial prejudices $\Rightarrow$ you are small-minded

inverse: If you are not small-minded $\Rightarrow$ you do not have racial prejudices

contrapositive: If you do not have racial prejudices, $\Rightarrow$ you are not small minded.

3. If you are a child, Then you donot like to go to bed early.

converse: If you do not like to go to bed early $\Rightarrow$ you are a child.

inverse: If you are not a child, then you like to go to bed early.

contrapositive: If you do like to go to bed early, then you are not a child.

II

4. 5 Conjecture: previous # (term) two

5. 19, Conjecture: + odd #'s increasing +3, +5, (+7)

6. 17, Conjecture add the difference +3 more
$4-2=2+3=9$
$9-4=5+3=8 \rightarrow (17)$

7. 122, Conjecture: multiply the diff. by 3 then add to previous term
$5-2=3(3)=9+5=14$
$14-5=9(3)=27+14=41$
$41-14=27(3)=81+41=(122)$

III

8. (a) points: Dot • A capital letter
(b) lines: 2 capital letters or on lowercase cursive
(c) planes: 4 capital letters
(d) rays: 2 capital letters ½ seg ½ line above
(e) segments: 2 capital letters with bar above
(f) angles: 3 capital letters, 1 capital letter, or # all with ∠ symbol
(g) triangle: 3 capital letters w/ △ symbol

9. $\overline{AB} \cong \overline{DC}$ $AB = DC$ equal in measure/length
tic marks

10. $\angle A \cong \angle B$ $m\angle A = m\angle B$ equal degrees are marks

IV

11. Any 2 points are ALWAYS Collinear
12. Any 3 points are ALWAYS Coplanar
14. Any 3 points are ALWAYS Coplanar
15. One point and a line are ALWAYS Coplanar
16. Any 2 points are ALWAYS Collinear

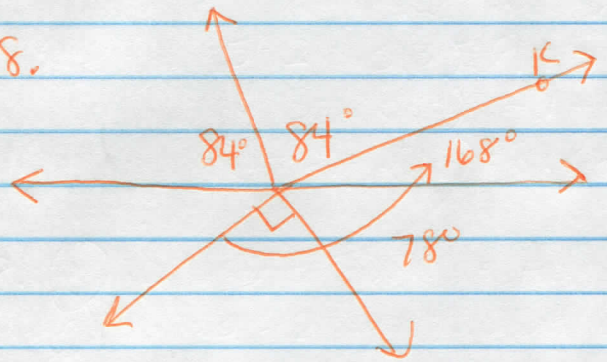
V

17. $m = \frac{\Delta y}{\Delta x} = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-7+4}{3+2} = \boxed{\frac{-3}{5}}$

VI

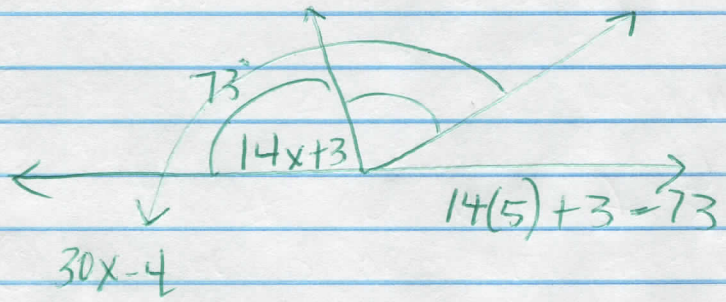
23. bisects means cut in half equally

28.



168 - 90

29.



$\frac{2(14x+3)}{2} = \frac{30x-4}{2}$

$14x+3 = 15x-2$

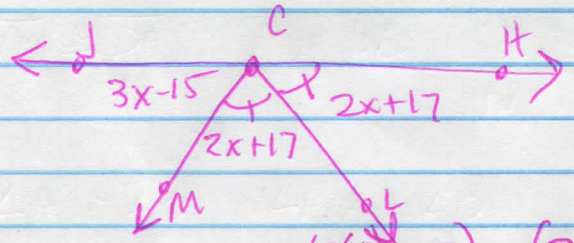
$-14x \quad -14x$

$3 = x-2$

$+2 \quad +2$

$\boxed{5 = x}$

30.



$3x-15+2x+17+2x+17 = 180$

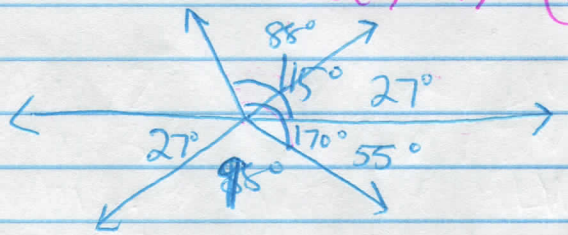
$7x+19 = 180$

$7x = 161$

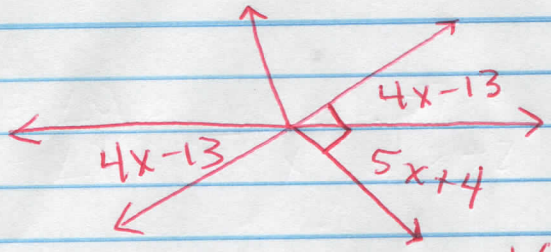
$\boxed{x = 23}$

$2(23)+17 = (80)2 = 126$

31.



32.



$4x-13+5x+4=90$

$9x-9=90$

$9x=99$

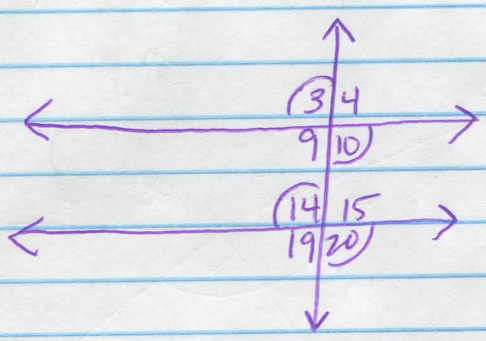
$\boxed{x=11}$

$4(11)-13$

$44-13=31$

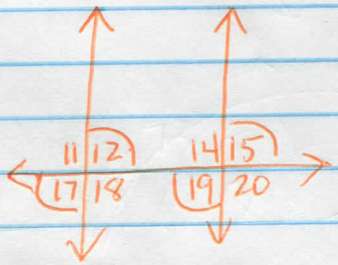
VII

33.



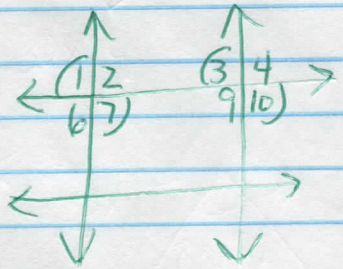
$\angle 3, \angle 14, \angle 20$

34.



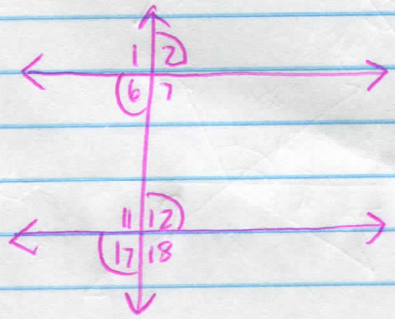
$\angle 11, \angle 18, \angle 14, \angle 20$

35.



$\angle 1, \angle 7, \angle 3$

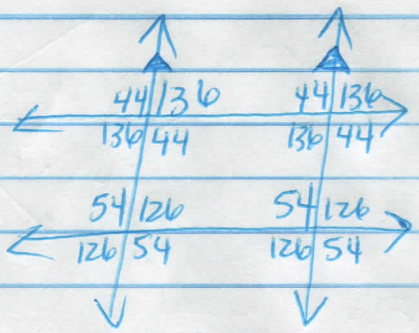
36.



$\angle 1, \angle 7, \angle 11, \angle 18$

VIII

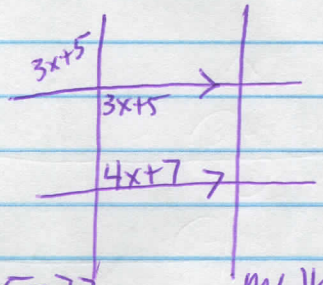
37-42



44

(a)

SSIA



$3x+5+4x+7=180$

$7x+12=180$

$7x=168$

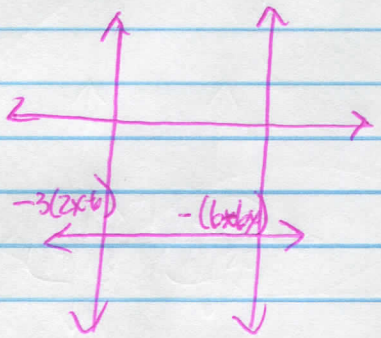
$\boxed{x=24}$

$3(24)+5=77$

$m\angle 16 = 180-77=103°$

(b)

corr ∠'s ≅



$\frac{-3(2x-6)}{-3} = \frac{-(6-6x)}{-3}$

$2x-6=2-2x$

$+2x \quad +2x$

$4x-6=2$

$+6 \quad +6$

$4x=8$

$\boxed{x=2}$

$-(6-6(2))$

$-6+12=6$

$m\angle 15 = m\angle 11$

IX

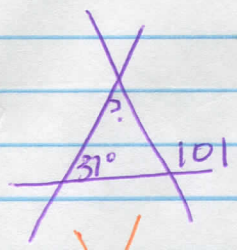
45-59. (NO WORK)

X

60-63 (WORK on Review)

XI

65.

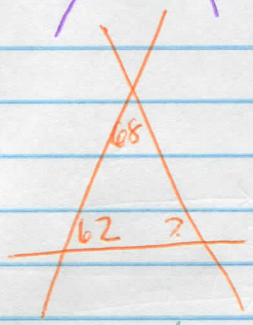


$101 = 37 + x$

$-37 \quad -37$

$64 = x$

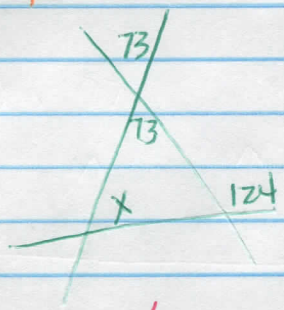
66.



$180 = 62 + 68 + ?$

$50 = x$

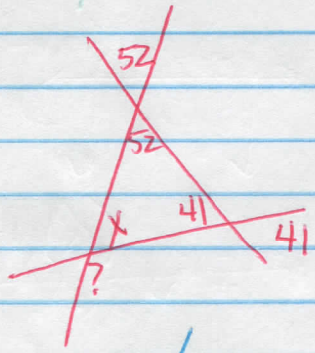
67.



$124 = 73 + x$

$51 = x$

68.



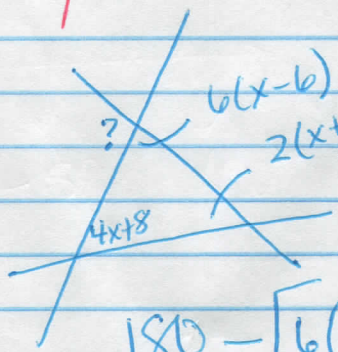
$52 + 41 + x = 180$

$x = 87$

$180 - x = ?$

$180 - 87 = 93$

69.



$4x + 8 + 2(x+2) + 6(x-6) = 180$

$4x + 8 + 2x + 4 + 6x - 36 = 180$

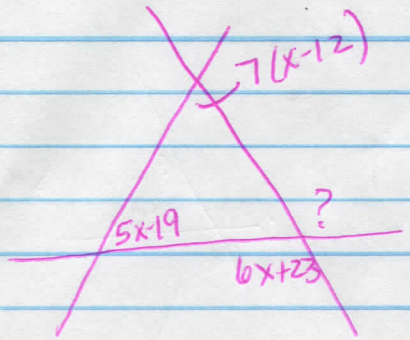
$12x - 24 = 180$

$12x = 204$

$\boxed{x = 17}$

$180 - [6(17-6)] = ? \; 114°$

70.



$6x+23 = 5x-19+7(x-12)$
$6x+23 = 5x-19+7x-84$
$6x+23 = 12x-103$
$-6x \quad -6x$
$23 = 6x-103$
$+103 \quad +103$
$126 = 6x$
$\boxed{21 = x}$

$6(21)+23 = m\angle 5 = ?$
$\boxed{149° = m\angle 5}$

71.

(a) Triangle Sum Thm
Vertical ∠'s
SSIA
Linear Pairs

(b) Linear pairs
Triangle Sum Thm
AIA
Complementary ∠'s
AEA

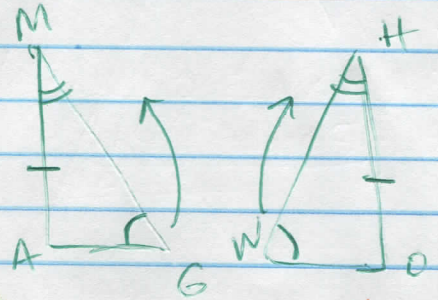
73. Isosceles △
vertical ∠'s
triangle Sum Thm
Supplementary ∠'s
Corresponding ∠'s
Remote Exterior ∠ Thm

XII

75-80 (NO work, markings on review)

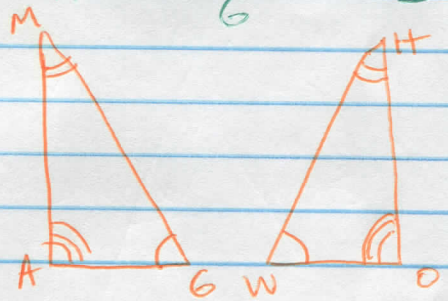
XIII

81.



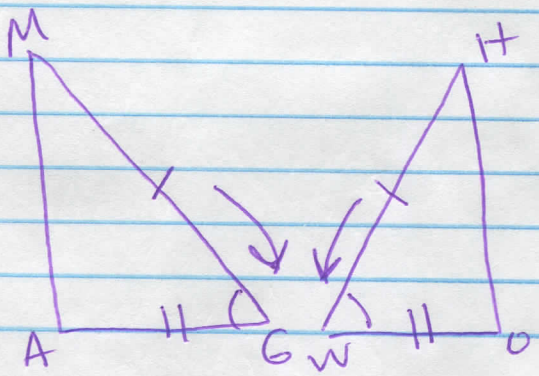
AAS

82.



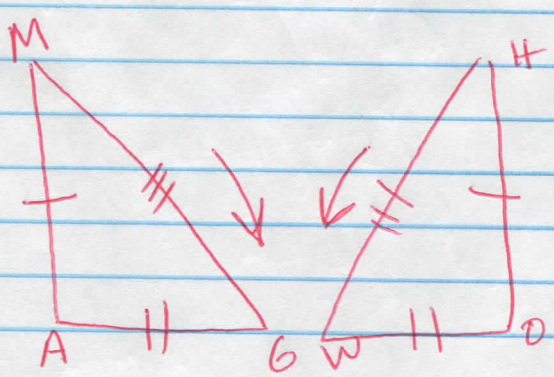
AAA
does not work

83.



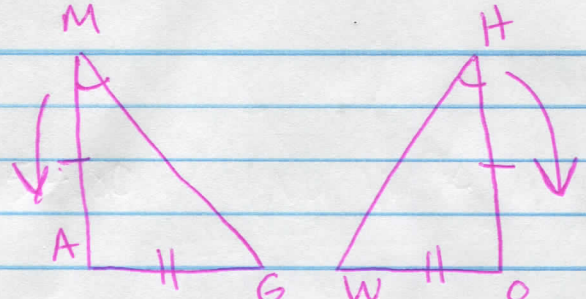
SAS

84.



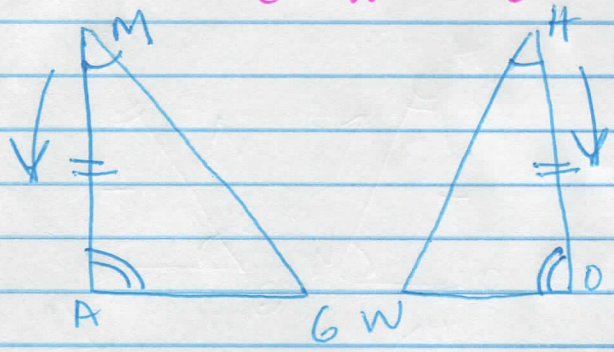
SSS

85.



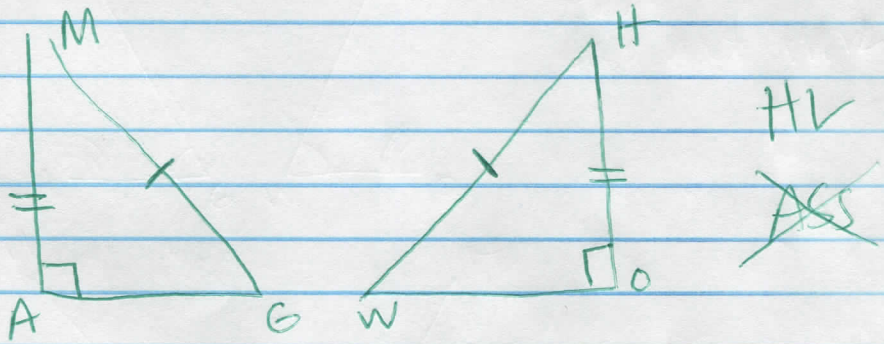
ASS does not work

86.



ASA

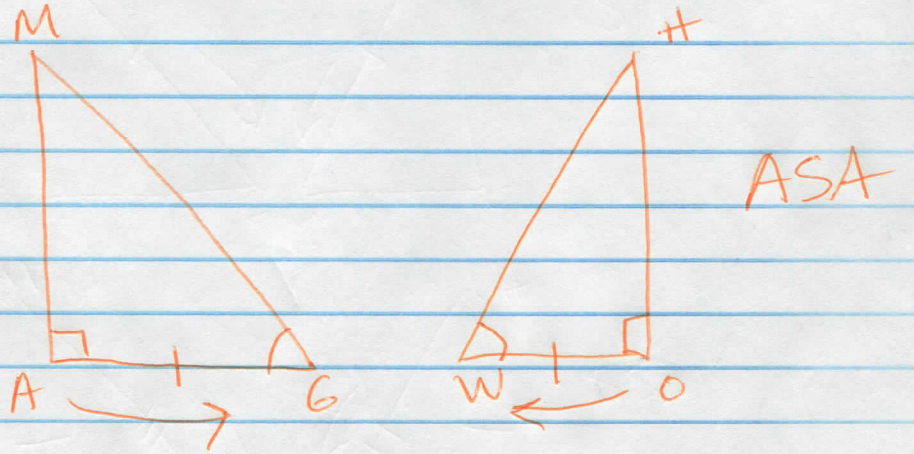
87.



HL

~~ASS~~

88.



ASA

89. a) Perpendicular Bisector : circumcenter
- equidistant to the vertices

b) Angle Bisector : incenter
- equidistant to the sides

c) Median : centroid
- center of gravity; balancing point

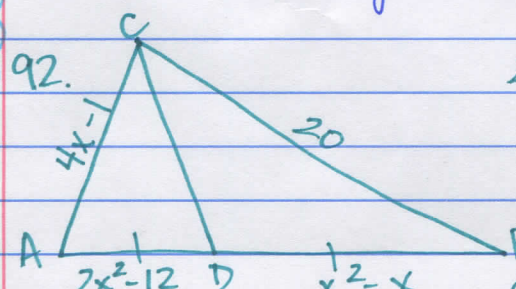
d) Altitude : orthocenter
- no special properties

90. a) Perpendicular Bisector
b) Angle Bisector
c) Altitude
d) Median
e) Altitude
f) Perpendicular Bisector
g) Altitude

91. a) True
b) False, only $\triangle$ ≅ $\triangle$, always the vertex
c) False, acute $\triangle$ inside ≅ right $\triangle$ on
d) True, and median ≅, ⊥ bisector
e) False, vertex point only or in an $\measuredangle$
f) False, only their POC is concurrent

omit 92b

92.



$2x^2 - 12 = x^2 - x$

$x^2 + x - 12 = 0$

$(x+4)(x-3) = 0$

$x = -4, 3$

a) AC = 11u ; AD = 6, 20
DB = 20, 6

$AC = 4(3) - 1 = 11$

$AD = 2(-4)^2 - 12 = 20$

$2(3)^2 - 12 = 6$

$DB = (-4)^2 - (-4) = 20$

$(3)^2 - (3) = 6$