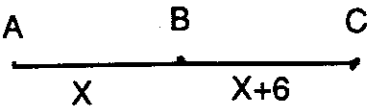
Regional Solutions Geometry Individual
Jan 8,1994

1. **C**



X+X+6=12
2X+6=12
X=3
BC=9

2.**C** m∠ 1= m∠ 2 ➔ 8X+3=6X+9
X=3
ANGLE 1=ANGLE 2=27
180-54=126

3.**D** **ANY THEOREM; IT CAN ONLY BE THEOREMS PREVIOUSLY PROVED OR USED.**

4.**B** X^2-9X+11X+12=180
X^2+2X-168=0
(X+14)(X-12)=0
X=-14 OR X=12
IF X=-14 THEN -14^2-9(-14)=322 (THIS IS TOO MUCH)
IF X=12 THEN 12^2-9(12)=36

5.**B** ANGLE 1=180-ANGLE 2
=90+(90- ANGLE 2) ANGLE 3= 90-ANGLE 2
=90+ ANGLE 3
ANGLE 1 -ANGLE 3=90

6.**D** **THALES**

7.**C** **IF P ➔ Q INVERSE IF ~P ➔ ~ Q (If the m∠ A ≠ 90, then ∠ A is not a right angle.)**

8.**A** **RAY RYA ARY AYR YRA YAR(6 WAYS)**

9.**C** N(N-1)/2
12(11)/2=66

10.**B** 2Y+5=X ➔ 2Y-X=-5
X+Y=95 ➔ Y+X=95
3Y=90 ➔ **Y=30**

Regional Solutions Geometry Individual
Jan 8,1994

11.**D** (3y+5)+52=90
90-52=38=3y+5=Angle ACB

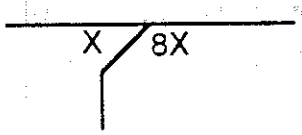
12.**C** 16° 18' 24" /3=5° **26' 8"**

13.**D** ONE,TWO, THREE ,FOUR, FIVE,SIX,SEVEN,**EIGHT**

14.**A THE LINES COULD BE SKEW**

15.**D** 5X+2+68=180
X=22

16.**D** X+8X=180 360/N=20
9X=180 20N=360
X=20 **N=18**



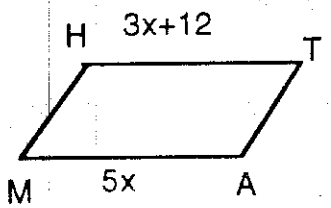
17.**D** **AB=4x-6=18**

18.**C POSTULATE**

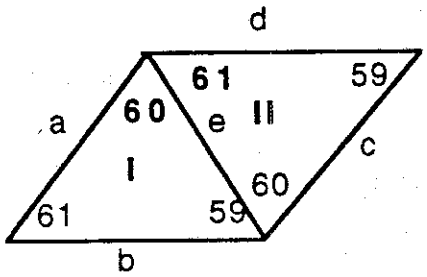
19.**D INDIRECT PROOF ASSUME THE PROVE IS FALSE**

20.**B** **18+26/2=22**

21.**C** 5X=3X+12
X=6
HT=3(6)+12=30



22.**C**



TRIANGLE I: A<B<E
TRIANGLE II:E<D<C
A<B<E<D<C

23.**B** X^2-3X+2=$2X^2$-9X-5
0=X^2-6X-7
0=(X-7)(X+1)

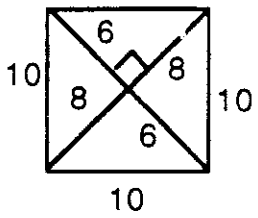
X=7(POSITIVE VALUE) OR X=-1

Regional Solutions Geometry Individual
Jan 8,1994

24.**D** 2X+3X+4X=180
X=20
2(20)=40, 3(20)=60, **4(20)=80**

25.**A** 30-X/X=8/7 **7(30-X)=8X**
→ **NOT 7X=8(30-X)** note: 30-X+X/X=8+7/7
30/X=15/7

26.**D**



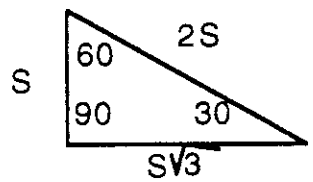
$6^2+8^2=SIDE^2$
$100=SIDE^2$
10=SIDE
PERIMETER=(10)4

27.**A** $D=\sqrt{12^2+3^2+4^2}$
D=13

28.**D** IF N=1 $6^2+7^2 \_\_ 8^2$
85>64 **ACUTE**

IF N=3 $4^2+7^2 \_\_ 10^2$
65<100 **OBTUSE; CAN'T BE BOTH**

29.**C**



TAN 30=S/S$\sqrt{3}$
TAN 60= S$\sqrt{3}$/S
(S/S$\sqrt{3}$)(S$\sqrt{3}$/S)=1

30.**B** 6/X=X/24
$X^2=144$
X=12