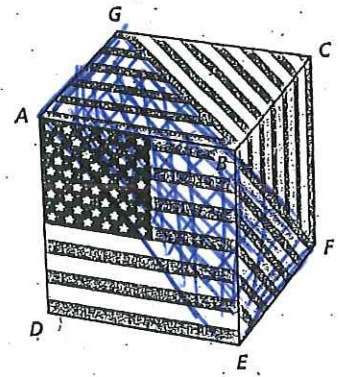


#1-5, Use the cube at right to answer the following questions.

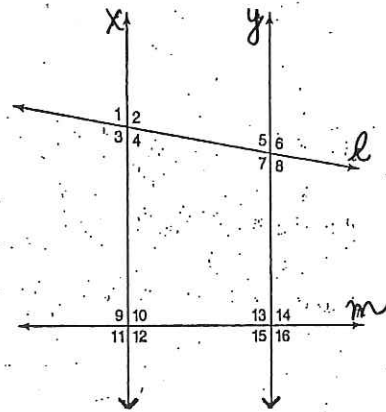


1. Lines AG and EF are parallel.
2. If $AB \perp BC$ and $BC \perp GC$, then $AB \parallel GC$.
3. DE and BE are perpendicular segments.
4. An example of 2 skew segments would be AG and EF.
5. The intersection of ABD and BEF is \overline{BE}
(not just B or E)

#6-12, Use the diagram to:

- a) Identify the special name for the pair of angles (if one exists)
- b) State the transversal for the 2 angles

6. $\angle 1$ and $\angle 12$ Alt. Ext, X
7. $\angle 2$ and $\angle 10$ Corresponding, X
8. $\angle 6$ and $\angle 3$ Alt. Ext, l
9. $\angle 7$ and $\angle 13$ Same Side Interior, y
10. $\angle 14$ and $\angle 3$ none
11. $\angle 8$ and $\angle 13$ Alt. Int, y
12. $\angle 15$ and $\angle 7$ Cor, y



13. $\angle 2$ and $\angle 3$ are vertical angles.
14. $\angle 14$ and $\angle 16$ are a linear pair

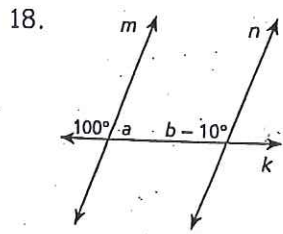
#15-17, In the problems below $l_1 \parallel l_2$ Find $m\angle 1$ and $m\angle 2$

15.
 $m\angle 1 = 120$
 $m\angle 2 = 120$

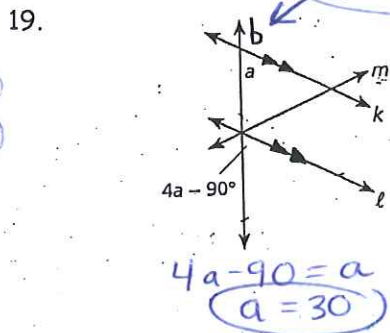
16.
 $m\angle 1 = 70^\circ$
 $m\angle 2 = 70^\circ$

17.
 $m\angle 1 = 80^\circ$
 $m\angle 2 = 100^\circ$

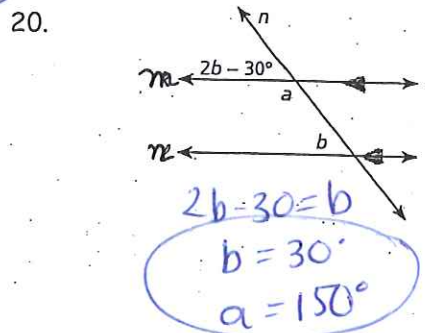
#18-20, In the problems below $m \parallel n$, determine the values of a and b .



$100 = b - 10$
 $110 = b$
 $80 = a$

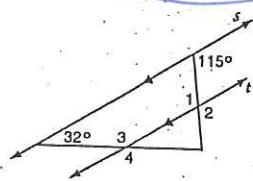


$4a - 90 = a$
 $a = 30$
 $b = 150$



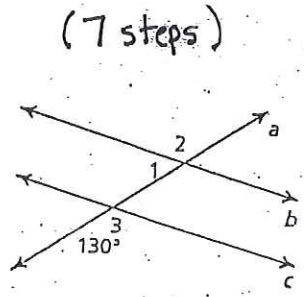
$2b - 30 = b$
 $b = 30$
 $a = 150$

21. $m \angle 1 = 115$ (alt. int)
 $m \angle 2 = 115$ (corr)
 $m \angle 3 = 148^\circ$
 $m \angle 4 = 148^\circ$



#22-23, Write a two-column proof for each.

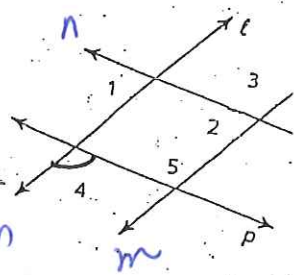
22. Given: $b \parallel c$
 $m \angle 3 = 130^\circ$
Prove: $m \angle 1 = 50^\circ$



23. Given: $l \parallel m$
 $n \parallel p$
 $m \angle 1 = 75^\circ$

(9 steps)

Prove: $m \angle 4 = 105^\circ$



Statement	Reason
1. $b \parallel c$	1. Given
2. $\angle 3 = 130^\circ$	2. Given
3. $\angle 2 = 130^\circ$	3. Alt. Ext.
4. $\angle 1 + \angle 2 = 180$	4. Linear Pair
5. $\angle 1 + 130 = 180$	5. Sub. (3, 4)
6. $\angle 1 = 50^\circ$	6. —

Statement	Reason
1. $l \parallel m$	1. Given
2. $n \parallel p$	2. Given
3. $\angle 1 = 75$	3. Given
4. $\angle 2 = 75$	4. Corr.
5. $\angle 2 + \angle 5 = 180$	5. SSI
6. $75 + \angle 5 = 180$	6. Sub (4, 5)
7. $\angle 5 = 105$	7. — Subtract
8. $\angle 4 = 105$	8. Alt. Int