

16)  $y^2 - 2y = 90 - y$   
 $y^2 - 3y - 90 = 0$   
 $(y - 10)(y + 9) = 0$   
 $x = 5 \quad 28)$

Solve for  $x$  and  $y$  so that  $\triangle Pm$ .  
 $x = 12 \quad S - 10, 6$   
 $y = -9/10$   
 $\text{otherwise we have } y = 10$

$5x + 120 = 180$   
 $5x = 60$   
 $x = 12$

24)  $y = -7$

25)  $90^\circ$   
 $(8y + 34)^\circ$   
 $(24x + 4)^\circ$   
 $8y^\circ$   
 $18x^\circ$   
 $18x + 8y + 34 = 180$   
 $24x + 8y = 176$   
 $24x + 8(-7) = 176$   
 $24x = 232$   
 $x = 9.6$

PROOFS:

$5x = 60$   
 $x = 12$

29) Given:  $c \parallel d$  and  $\angle 10 \cong \angle 4$

or

Prove:  $a \parallel b$

$$x^2 + 4x + 120 = 180$$

$$x^2 + 4x - 60 = 0$$

$$(x+6)(x-10) = 0$$

STATEMENTS

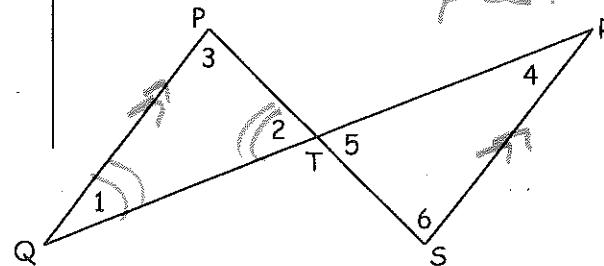
REASONS

- ①  $c \parallel d, \angle 10 \cong \angle 4$
- ②  $\angle 10 \cong \angle 12$
- ③  $\angle 4 \cong \angle 12$
- ④ all b

- ① Given
- ② corr ls post
- ③ trans POC
- ④ conv of corr ls post

30) Given:  $\overline{PQ} \parallel \overline{RS}$  and  $\angle 1 \cong \angle 2$

Prove:  $\angle 4 \cong \angle 5$



STATEMENTS

REASONS

- ①  $PQ \parallel RS, \angle 1 \cong \angle 2$
- ②  $\angle 1 \cong \angle 4$
- ③  $\angle 2 \cong \angle 5$
- ④  $\angle 1 \cong \angle 5$
- ⑤  $\angle 4 \cong \angle 5$

- ① Given
- ② Alt. Int. Ls Thm
- ③ Vert Ls Thm
- ④ Trans POC Steps 1 & 3
- ⑤ Trans POC Step 4

★ DON'T FORGET TO STUDY ALL YOUR NOTES, HOMEWORKS & QUIZZES! ★

Joe  
Japan  
Mass

- 8) Draw lines representing the distance between Line AB and Point S and Line m and point S



- 9) Find the value of x, y and z.

$$\begin{aligned}
 & (8x - 7)^\circ + (3x - 11)^\circ + (2y + 23)^\circ + (4y + 8)^\circ = 360^\circ \\
 & 11x - 18 = 180 \\
 & 11x = 198 \\
 & x = 18 \\
 & 4y + 8 = 2y + 23 \\
 & 2y = 15 \\
 & y = \frac{15}{2} = 7.5 \\
 & 3z^2 - 5 = 49 \\
 & 3z^2 = 54 \\
 & z^2 = 18 \\
 & z = \pm \sqrt{18} = \pm 3\sqrt{2}
 \end{aligned}$$

- 10) Using the figure at the right to answer each of the following questions.

- a) A line skew to  $\overline{AB}$  that contains point C?

$\overleftrightarrow{CD}$  or  $\overleftrightarrow{CE}$  or  $\overleftrightarrow{CF}$  or  $\overleftrightarrow{CE}$

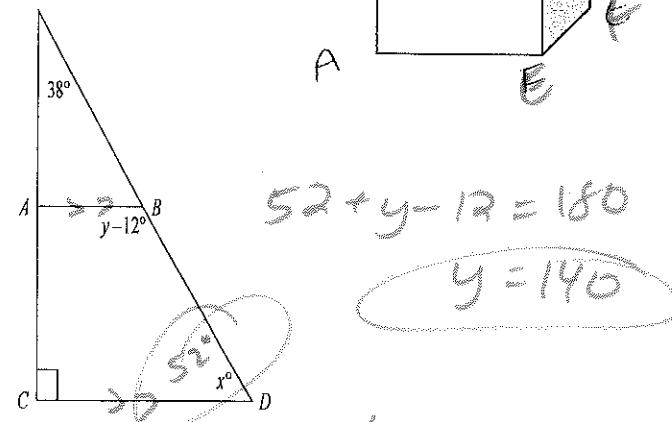
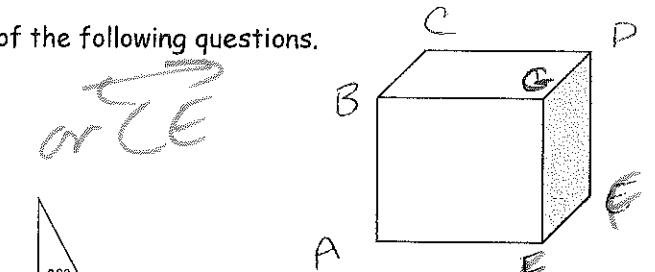
- b) A point that is not coplanar to C, D and F

A or B or G or E

- c) A plane perpendicular to Plane CDF

$\triangle AEF$  or  $\triangle BCD$

- 11) If  $\overline{AB} \parallel \overline{CD}$ , find x and y in the picture.

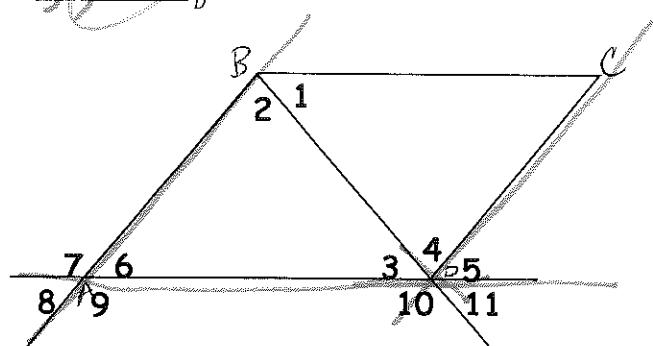


- 12) Identify each pair of angles

Alt Dnes a)  $\angle 2$  and  $\angle 4$

Vert  $\angle$  b)  $\angle 3$  and  $\angle 11$

SSl  $\angle$  c)  $\angle 2$  and  $\angle 6$



- 13) In #12, if  $\angle 6 \cong \angle 5$ , then which lines have to be parallel? What other angle relationships would we then know about?

$AB \parallel CD$  by  $\text{com}$  or  $\text{corr}$   $\angle$  post

$\angle 5 \cong \angle 7$  are supp.  $m\angle 9 \cong m\angle 3 + m\angle 4$   
 $m\angle 2 \cong m\angle 4 + m\angle 5$