

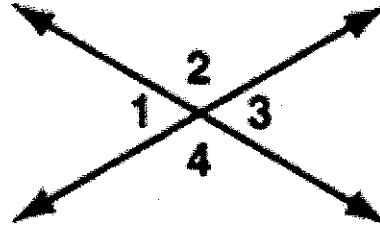
REVIEW

Language of Geometry, Points, Lines, Planes, Segments, Rays, Parallel Lines, Transversals, Angle Pairs

1) Tony drew two intersecting lines and labeled the resulting angles 1, 2, 3, and 4.

a) List all that is true about angles 2 and 4.

They are vertical angles and are congruent.



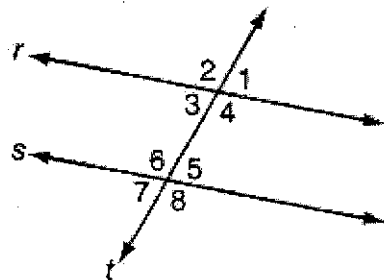
b) List all that is true about angles 3 and 4.

They are linear pairs and are supplementary.

c) List all linear pairs.

$1+2, 2+3, 4+1, 3+4$

2) In the figure below, $r \parallel s$, $m\angle 3 = (3x - 105)^\circ$, and $m\angle 6 = (2x + 10)^\circ$.



$3 + 6$ are supplementary.

What degree is $m\angle 8$? 120

8 is congruent to 6.

$$2x + 10 = 2(55) + 10 = 120$$

$$3x - 105 + 2x + 10 = 180$$

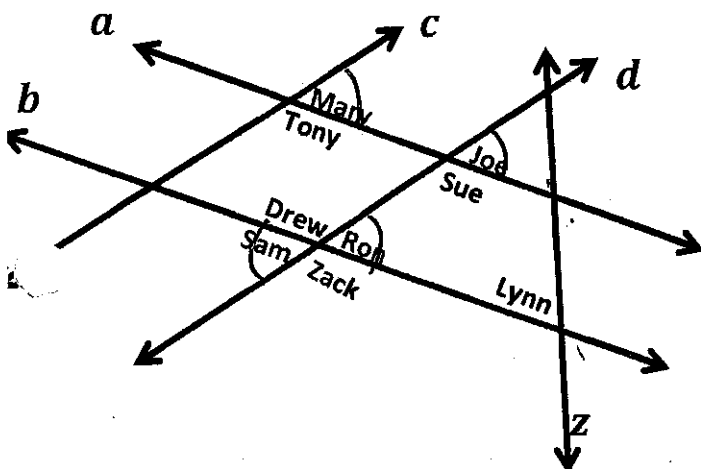
$$5x - 95 = 180$$

$$\begin{array}{r} +95 \\ \hline 5x = 275 \end{array}$$

$$\begin{array}{r} 275 \\ \hline 5 \\ x = 55 \end{array}$$

$$x = 55$$

3) The figure shows a land plot of a neighborhood. The names represent the lot and people who live there. $a \parallel b$ and $c \parallel d$.



a) List the houses that have the same size lot as Ron's house. Sam, Joe, Mary

b) Are there any houses that do not have the same size lot as anyone else?

Lynn

4) Alaina is helping Michela with a **geometry** question. The question asked for the definition of the term *plane*. Alaina told Michela she wasn't quite sure of how to answer the question. Why did she think this question is difficult?

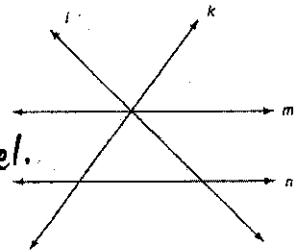
- A. *Plane* is an undefined term, so it does not have a definition.
- B. The term *plane* has many definitions, and it is difficult to choose the best one.
- C. The definition of the term *plane* requires spatial reasoning.
- D. It is difficult to define the term *plane* because the definition requires other complex terms.

5) Which term used in geometry is an **undefined** term?

- A. ray
- B. point
- C. angle
- D. line segment

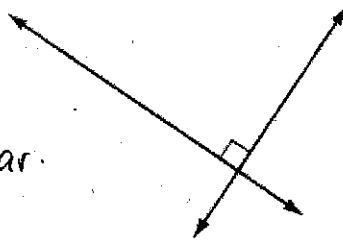
6) Which pair of lines are most likely to be parallel in the figure to the right? What is *l* and *k* called?

*m and n appear to be parallel.
l and k are transversals.*



7) Describe this figure.

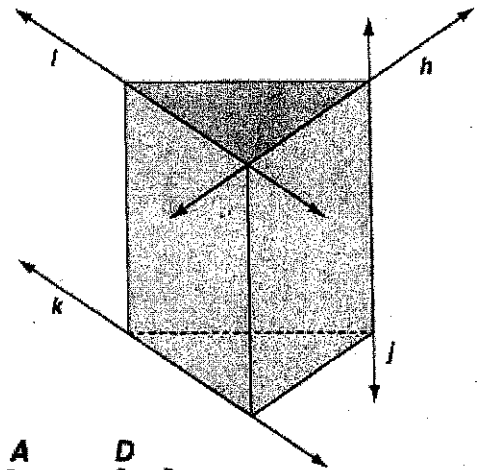
This is two lines that are perpendicular.



8) A sculpture will have a base in the shape of a triangular prism. The diagram below shows a model of the triangular prism.

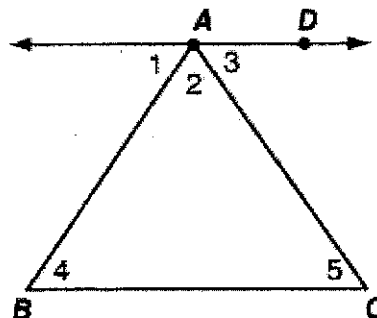
Name two pairs of skewed lines.

j and l ; k and h

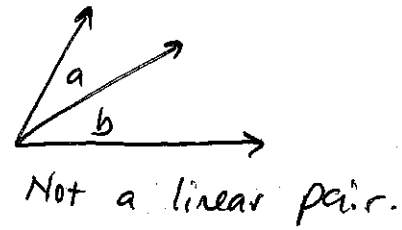
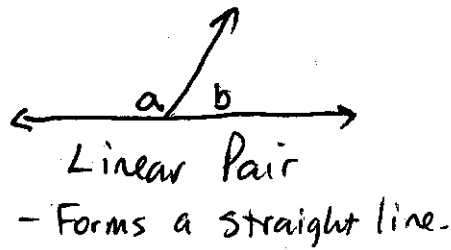


9) In the figure at the right list three angles that have a sum of 180°

*1, 2, 3
2, 4, 5*



- 10) Please draw an example of a linear pair and a *not* linear pair of angles. Explain the difference between them.



Symbol for parallel

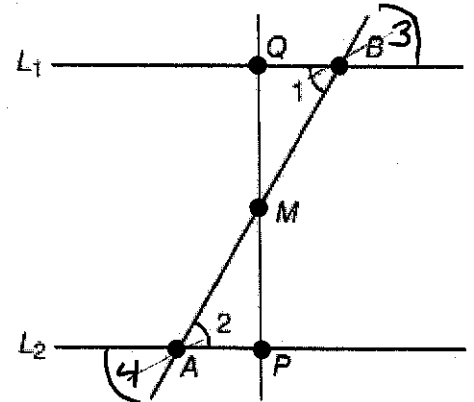
- 11) $l_1 \parallel l_2$ and they are cut by transversal \overline{BA}

a. What kind of angles can you conclude $\angle 1$ and $\angle 2$ are?

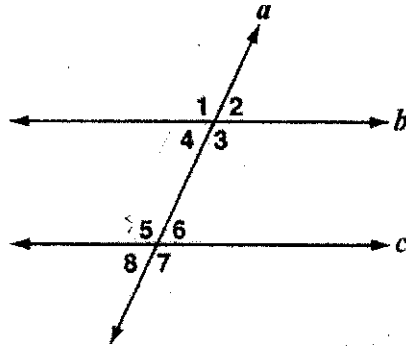
Alternate Interior

b. List another angle congruent to $\angle 1$ and $\angle 2$.

3 + 4



- 12) In the figure below, $b \parallel c$ and line a is transversal.



a. List all same side interior angle pairs.

4 + 5
3 + 6

b. List all alternate interior angle pairs.

4 + 6
3 + 5

c. List all corresponding angle pairs.

1 + 5 2 + 6
4 + 8 3 + 7

d. List all vertical angle pairs.

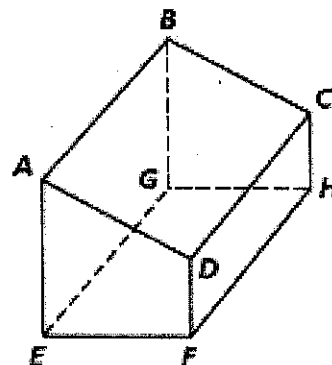
1 + 3 5 + 7
2 + 4 6 + 8

- 13) In the figure, what is the intersection of plane AEF and \overline{DC} ?

Point D

- 14) In the figure, what is the intersection of \overline{AB} and \overline{BG} ?

Point B



15) How many points does it take to name a line? Why?

2; Through any 2 points there is only one line.

16) How many points does it take to name a plane? Why?

3 non collinear, there is exactly only one plane.

In the figure, are the lines *parallel, intersecting, or skew*?

17) \overline{EF} and \overline{HF}

Int.

18) \overline{AD} and \overline{BC}

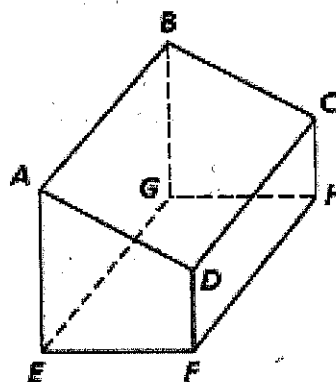
Skew

19) \overline{EF} and \overline{GH}

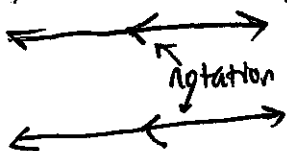
Par.

20) \overline{GE} and \overline{BC}

Skew



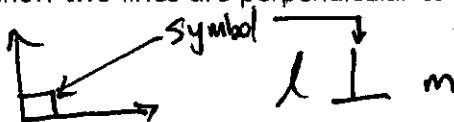
21) How can you show 2 lines are parallel to each other?



$l \parallel m$ ← symbol

Slopes are equal.

22) How can you show two lines are perpendicular to each other?



Slopes are opposite reciprocals.

23) (a) Given the points A(2, 7) and B(-5, -1), What is the ^{slope} equation for AB?

* only find the slope.

$m = \frac{y_2 - y_1}{x_2 - x_1}$ (2nd point coordinates change signs)

$$m = \frac{-1 - 7}{-5 - 2} = \frac{-8}{-7} = \frac{8}{7}$$

(b) What would be an equation for a line parallel to the line you calculated in part (a)?

$\frac{8}{7}$

(c) What would be an equation for a line perpendicular to the line you calculated in part (a)?

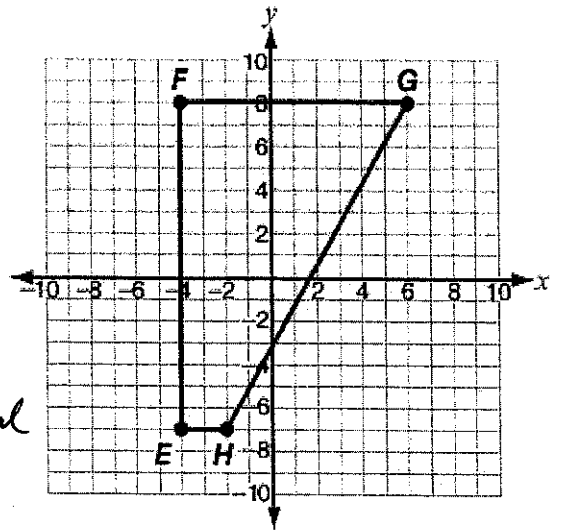
$-\frac{7}{8}$

24) Are any of these lines in the figure parallel? Explain.

$\overline{FG} + \overline{EH}$, they have slope = 0.
Their slopes are the same.

Are any of these lines in the figure perpendicular? Explain.

$\overline{FG} \perp \overline{FE}$ vertical lines are
 $\overline{EH} \perp \overline{FE}$ perpendicular to horizontal
lines.

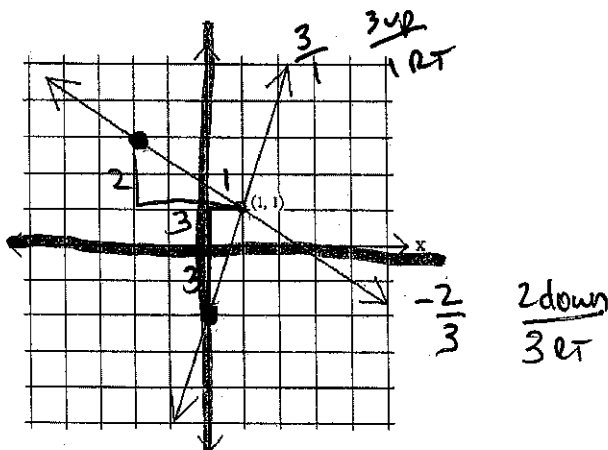


25) Are the lines perpendicular? Show all work for credit. Explain.

A. $y = 3x + 5$ and $2x + 6y = 9$ skip

B. $y = -7x + 5$ and $2x + 4y = 16$ skip

C.



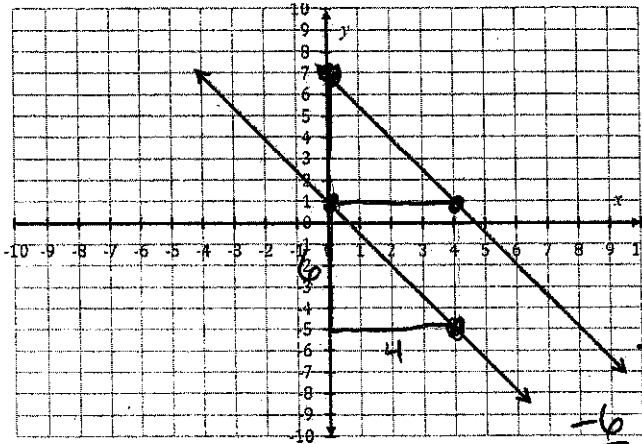
They are not perp. because
Slopes are not opposite
reciprocals.

26) Are the lines parallel? Show all work for credit. Explain.

A. $y = 5x + 10$ and $25x + 5y = 50$ *same*

B. $y = 3x + 5$ and $9x + 3y = 16$ *same*

C.



Same slope,
They are parallel.

$$-\frac{6}{4} = -\frac{3}{2}$$
$$-\frac{6}{4} = -\frac{3}{2}$$

27.) What is the slope of a vertical line? Undefined

What is the slope of a horizontal line? 0