PENANG SANGAM HIGH SCHOOL

YEAR 9 WORKSHEET

WEEK 19 - NOTES, EXAMPLES AND EXERCISES

STRAND 5: GEOMETRY

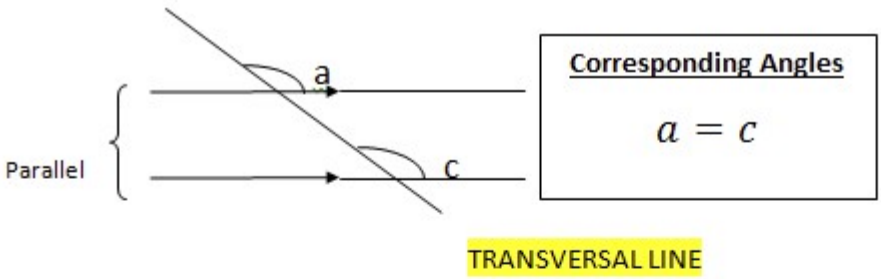
SUB STRAND: Angles

LESSON OBJECTIVE: Students should be able to:

To be able to identify different types of angles between parallel lines and do calculations involving them

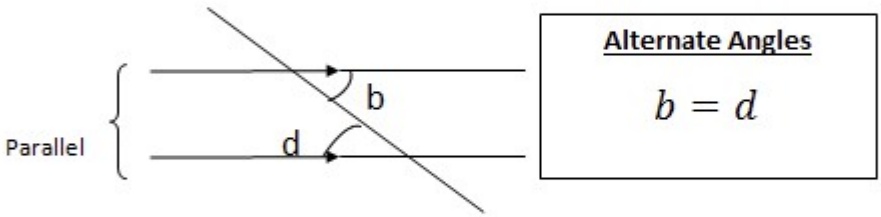
NOTE:

Angle Between Parallel Lines



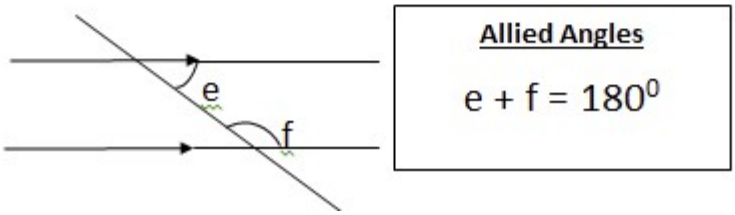
Corresponding Angles

$a = c$



Alternate Angles

$b = d$



Allied Angles

$e + f = 180^0$

Activity

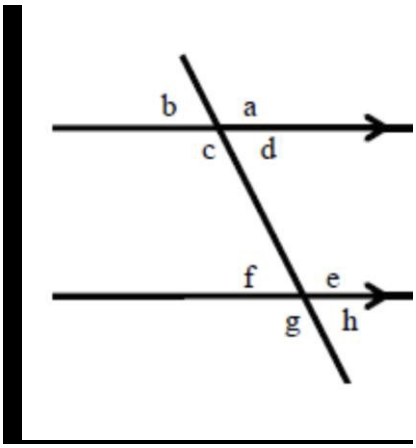
In the diagram below, identify the pair of:

a. allied angles

b. corresponding angle

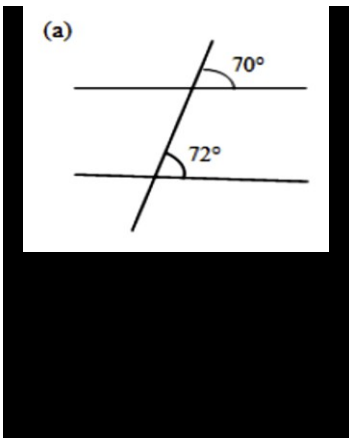
c. alternate angles

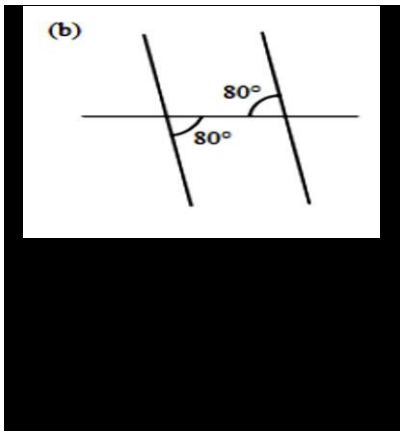
d. vertically opposite angles



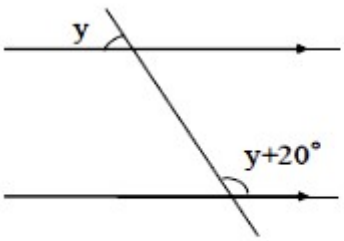
Example

1. State whether the given lines are parallel





2. Work out the size of the angles marked with letters.



$y + y + 20^\circ = 180^\circ$

$2y + 20^\circ = 180^\circ$

$2y = 180^\circ - 20^\circ$

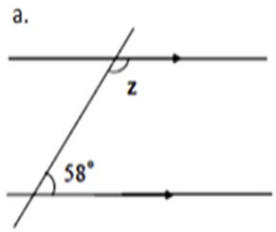
$2y = 160^\circ$

$y = \frac{160}{2}$

$y = 80^\circ$

3. Work out the values of the marked angles in the following:

a.

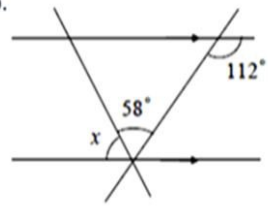


$z + 58° = 180°$

$z = 180° - 58°$

$z = 122°$

b.

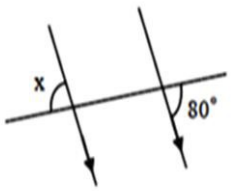


$x + 58° = 112°$

$x = 112° - 58°$

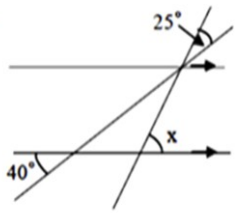
$x = 54°$

c.



$x = 80°$

d.



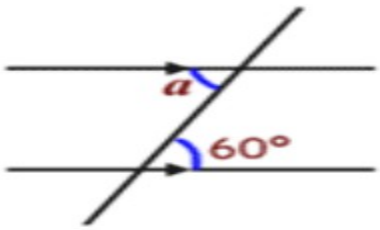
$x = 25° + 40°$

$x = 65°$

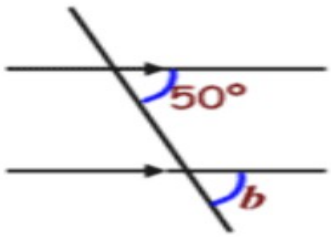
Exercise:

Use the three properties of angles in parallel lines to calculate the missing angles.

(a)



(b)



(c)