LINES AND ANGLE - CHAPTER 7

EXERCISE 7A

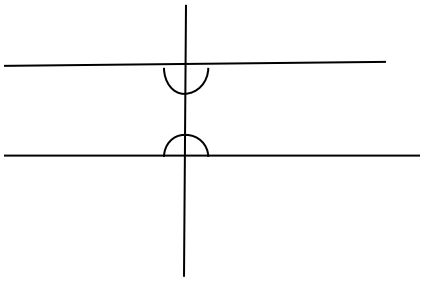
ANSWER1

(i) **Angle**

In mathematics, particularly geometry, angles are formed by two rays (or lines) that begin at the same point or share the same endpoint. The angle measures the amount of turn between the two arms or sides of an angle and is usually measured in degrees or radiANSWER.

(ii) **Interior of an angle**

an angle formed between parallel lines by a third line that intersects them. an angle formed within a polygon by two adjacent sides.

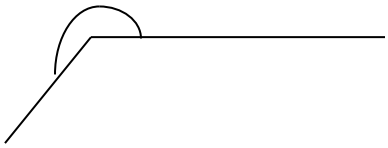


(iii) **Obtuse angle**

An obtuse angle is more than 90° but less than 180° In other words, it is between a right angle and a straight angle.

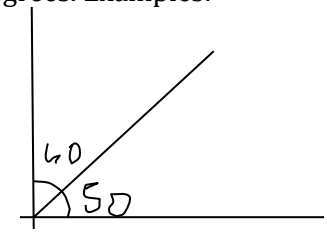
(iv) **Reflex angle**

The reflex angle is the larger angle. It is more than 180° but less than 360° If you choose the smaller angle you might have an Acute Angle, or an Obtuse Angle instead: The larger angle is a Reflex Angle, but the smaller angle is an Acute Angle.



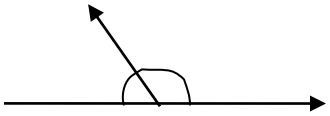
(v) **Complementary angle**

Two Angles are Complementary when they add up to 90 degrees (a Right Angle). They don't have to be next to each other, just so long as the total is 90 degrees. Examples: • 60° and 30° are complementary angles



(vi) **Supplementary angle**

Two Angles are Supplementary when they add up to 180 degrees. They don't have to be next to each other, just so long as the total is 180 degrees. Examples: • 60° and 120° are supplementary angles.



ANSWER2

(i) 55°

Let the measure of the required angle be x°

Then, measure of its complement = (90-x)°
So, 90-55° = 35°

(ii) 16°

Then, measure of its complement = (90-x)°
So, 90-16° = 74°

(iii) 90°

Then, measure of its complement = (90-x)°
So, 90-90° = 0°

(iv) 2/3 of right angel

It corresponds to 60°

Then, measure of its complement = (90-x)°
So, 90-60° = 30°

ANSWER3

(i) 42°
Then, measure of its complement = (180-x)°
So, 180-42° = 138°

(ii) 90°
Then, measure of its complement = (180-x)°
So, 180°-90° = 90°

(iii) 124°
Then, measure of its complement = (180-x)°
So, 180-124° = 56°

(iv) 3/5 of right angle
And it corresponds to 56°
Then, measure of its complement = (180-x)°
So, 180°-56° = 126°

ANSWER4

(i) Two angles are said to be complementary , if the sum of their measure is 90°.
So, half of it 45°

(ii) Two angles are said to be supplementary , if the sum of their measure is 180°.
So, half of it 90°

ANSWER5

Let the measure of the required angle be x°

Then, measure of its complement = (90-x)°
So,

$$x = (90 - x) + 36$$
$$2x = 90 + 36$$
$$x = \frac{126}{2} = 63$$

Hence , 63°

ANSWER6

Let the measure of the required angle be x°

Then, measure of its supplement = (180-x)°

So,

$$x = (180 - x) - 30$$
$$2x = 180 - 30$$
$$2x = 150$$
$$x = \frac{150}{2} = 75$$

Hence, 75°

ANSWER7
Let the angle be x° to measure its complement.
Acc to question.

$$x = 4(90 - x)$$
$$x + 4x = 360$$
$$5x = 360$$
$$x = 72$$

Hence, 72°

ANSWER8
Let the angle be x° to measure its supplement
Acc to question,

$$x = 5(180 - x)$$
$$x + 5x = 900$$
$$6x = 900$$
$$x = 150$$

Hence, 150°

ANSWER9
Let the angle be x°
Acc to question,

$$(180 - x) = 4(90 - x)$$
$$180 - x = 360 - 4x$$
$$4x - x = 360 - 180$$
$$3x = 180$$
$$x = 60$$

Hence, 60°

ANSWER10
Let the angle be x°
Acc to question,

$$(90 - x) = \frac{1}{3}(180 - x)$$
$$270 - 3x = 180 - x$$
$$270 - 180 = 3x - x$$
$$90 = 2x$$
$$x = 45$$

Hence, 45°

ANSWER11
Let the angle be x°
Acc to question,

$$4x + 5x = 90$$
$$9x = 90$$
$$x = 10$$

Hence angle be 4x = 4 X 10= 40°
Another angle be 5x = 5 X 10 = 50°

ANSWER12
Let the angle be x°

Acc to question,

$$(2x - 5) + (x - 10) = 90$$
$$3x - 15 = 90$$
$$3x = 90 + 15$$
$$3x = 105$$
$$x = 35$$