

MBA PRO 2025

Quantitative Aptitude

DPP: 3

Basics of Geometry

Q1 Consider a triangle whose sides measure 3, 4 and 5. Triangle formed is ?

- (A) Acute angled triangle
(B) Right angled triangle
(C) Obtuse angled triangle
(D) Cannot be determined

Q2 Consider a triangle whose sides measure 5, 6 and 8. Triangle formed is?

- (A) Acute angled triangle
(B) Right angled triangle
(C) Obtuse angled triangle
(D) Cannot be determined

Q3 What is the sum of interior angles in a triangle?

- (A) 360° (B) 270°
(C) 180° (D) 90°

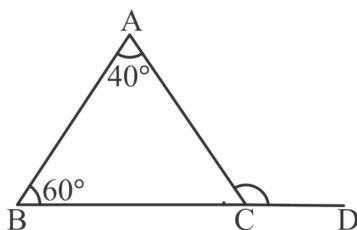
Q4 If two angles of a triangle are 30° and 55° . What is the measure of the third angle?

- (A) 90° (B) 95°
(C) 105° (D) 100°

Q5 The sum of all the sides of an equilateral triangle is $48\sqrt{3}\text{cm}$. Find its height?

- (A) 18 cm (B) 26 cm
(C) 24 cm (D) 16 cm

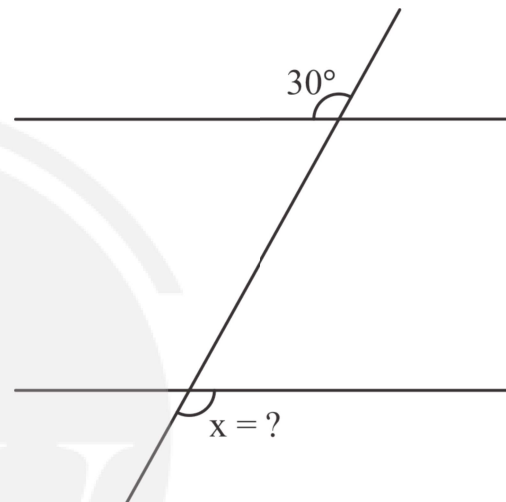
Q6



In the above figure angle A and B are given find angle ACD?

- (A) 95° (B) 100°
(C) 105° (D) 120°

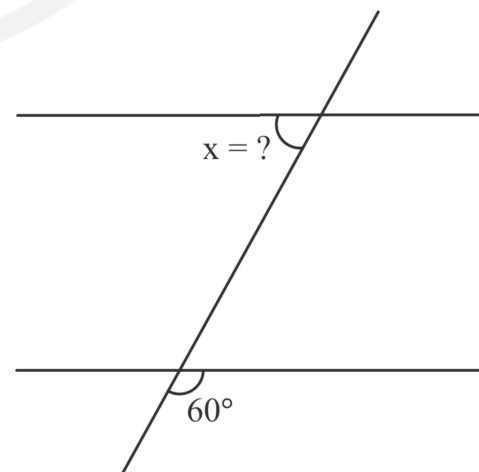
Q7



In the given figure one of the angles measures 30° . Find angle x.

- (A) 45° (B) 60°
(C) 30° (D) 120°

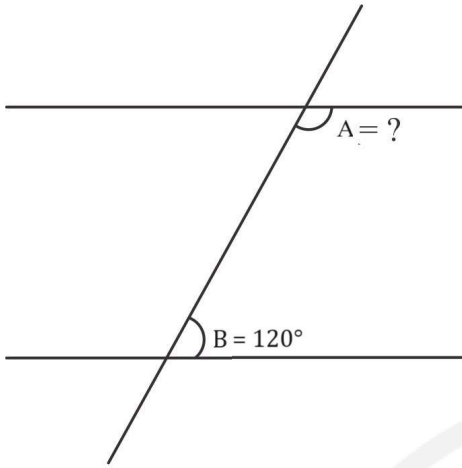
Q8



In the given figure, one of the angle measures 60° . Find $\angle x$.

- (A) 45° (B) 60°
(C) 30° (D) 120°

Q9



In the given figure, $\angle B = 120^\circ$, find $\angle A$.

- (A) 120° (B) 90°
(C) 60° (D) 45°

Q10 There are two upright poles, with height of 7m and 12m respectively. Given that the bases of the two poles are 12m apart. What is the distance between their tops.

- (A) 12 (B) 13
(C) 14 (D) 15

Q11 The two sides of a triangle are 4 and 10 cm. If all sides are integers, find the largest and smallest possible values of the third side.

- (A) 12, 7 (B) 13, 7
(C) 13, 8 (D) 12, 8

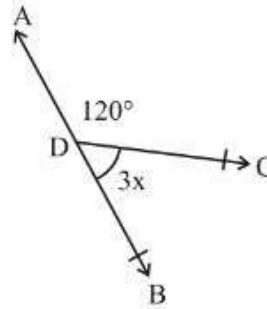
Q12 The sides of a triangle, $a = 6\text{cm}$ and $b = 9\text{cm}$. If c is the third side, then number of possible integral values c can assume is :

- (A) 4 (B) 7

(C) 10

(D) 11

Q13 Find x .

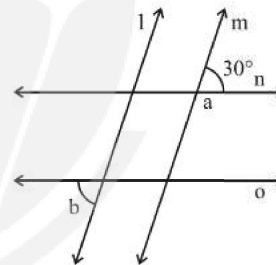


- (A) 60°
(B) 40°
(C) 20°
(D) 80°

Q14 The difference between two complementary angle is 36° . One of the angles are -

- (A) 27° (B) 63°
(C) Both a and b (D) 33°

Q15 Line l is \parallel to m and n is \parallel to o . If $a = 30^\circ$, then find b .



- (A) 30°
(B) 150°
(C) 120°
(D) None of these



Answer Key

Q1 (B)

Q2 (C)

Q3 (C)

Q4 (B)

Q5 (C)

Q6 (B)

Q7 (C)

Q8 (D)

Q9 (C)

Q10 (B)

Q11 (B)

Q12 (D)

Q13 (C)

Q14 (C)

Q15 (A)



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Hints & Solutions

Note: scan the QR code to watch video solution

Q1 Text Solution:

In this we will use pythagoras theorem rule,
Square of the largest side is equal to the sum of
square of the remaining two sides.

Largest side 5 , square of the largest side.

$$5^2 = 25$$

Sum of the square of the remaining two sides =

$$3^2 + 4^2 = 25$$

Hence , Square of the largest side = the sum of
square of the remaining two sides.

It is a right angled triangle

Video Solution:



Q2 Text Solution:

In this we will use pythagoras theorem rule,
Square of the largest side is equal to the sum of
square of the remaining two sides.

Largest side 8, square of the largest side.

$$8^2 = 64$$

Sum of the square of the remaining two sides =

$$5^2 + 6^2 = 61$$

Hence , Square of the largest side $>$ the sum of
square of the remaining two sides.

It is a Obtuse angled triangle

Video Solution:



Q3 Text Solution:

The sum of interior angles in a triangle is 180 degrees.

This is a fundamental property of triangles,
known as the "Angle Sum Property" of triangles.

It holds true for all types of triangles:

Acute triangle

Right triangle

Obtuse triangle

Equilateral triangle

Isosceles triangle

Scalene triangle

Video Solution:



Q4 Text Solution:

The sum of all angles of a triangles is 180°

$$35^\circ + 55^\circ + x = 180^\circ$$

$$85^\circ + x = 180^\circ$$

$$x = 180^\circ - 85^\circ$$

$$x = 95^\circ$$

Video Solution:



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**Q5 Text Solution:**

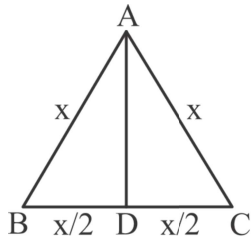
Let one side be x

The sum of sides of an equilateral triangle = $3x$

$$3x = 48\sqrt{3} \quad x = 16\sqrt{3}$$

Using pythagoras theorem

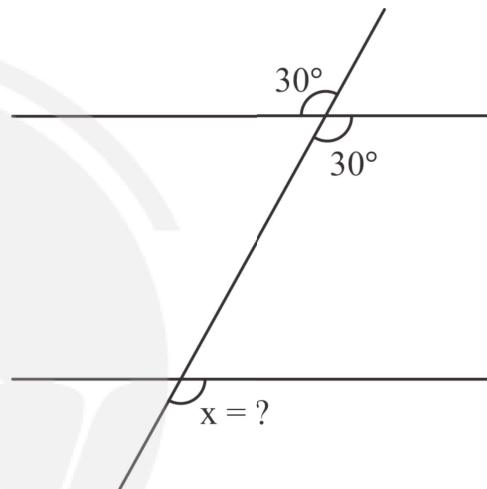
$$\begin{aligned} AC^2 &= x^2 + \left(\frac{x}{2}\right)^2 \\ &= (16\sqrt{3})^2 - \left(\frac{16\sqrt{3}}{2}\right)^2 \\ &= 256 \times 3 - 64 \times 3 \\ &= 768 - 192 \\ &= 24 \text{ cm} \end{aligned}$$

**Video Solution:****Q6 Text Solution:**

When a triangle's side is extended, the resultant exterior angle formed is equal to the sum of the measures of the two opposite interior angles of the triangle.

Hence,

$$\begin{aligned} \angle D &= \angle A + \angle B \\ &= 60^\circ + 40^\circ \\ &= 100^\circ \end{aligned}$$

Video Solution:**Q7 Text Solution:**

$$\angle y = 30^\circ$$

So, $\angle z = 30^\circ$ Vertically Opposite angle

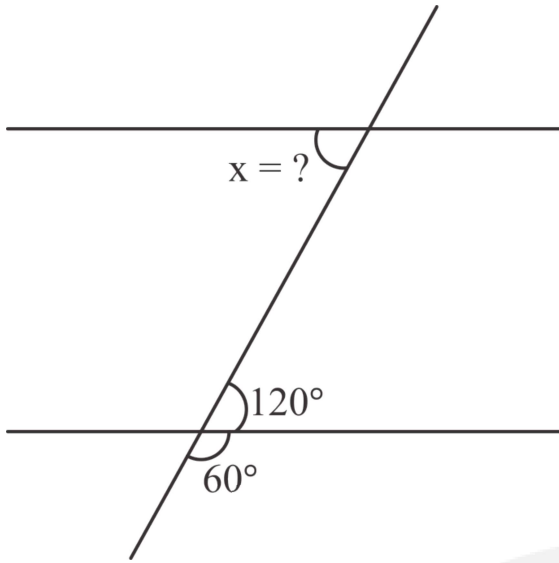
$$\angle z = 30^\circ$$

$\angle z = \angle x$ Corresponding angle

$$\angle x = 30^\circ$$

Note: Corresponding angles are angles on the same side of the transversal and the same side of parallel lines is equal

Video Solution:

Q8 Text Solution:

$$\angle y = 60^\circ$$

$$\angle y + \angle z = 180^\circ$$

$$60^\circ + \angle z = 180^\circ$$

$$\angle z = 120^\circ$$

$$\angle z = \angle x \text{ Alternate Interior Angles}$$

$$\angle x = 120^\circ$$

Note: Alternate Interior Angles are angles formed when a transversal line intersects two parallel lines.

Video Solution:**Q9 Text Solution:**

In the above figure,

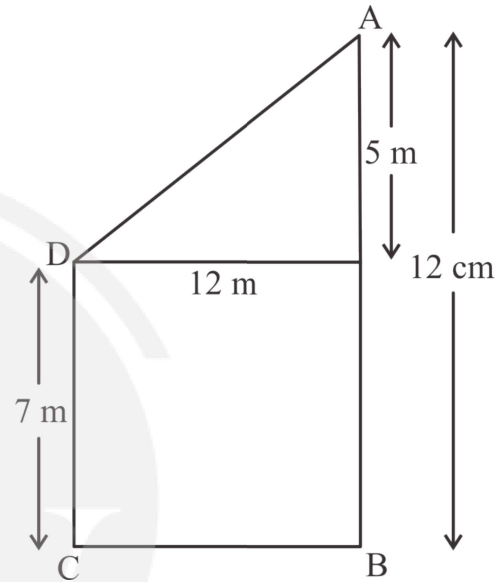
The interior angle on the same side of the transverse is supplementary

So,

$$\angle A + \angle B = 180^\circ$$

$$\angle A + 120^\circ = 180^\circ$$

$$\angle A = 60^\circ$$

Video Solution:**Q10 Text Solution:**

Make a diagram with the given height and base

Use pythagoras theorem

$$AD^2 = DE^2 + AE^2$$

$$= 12^2 + 5^2$$

$$= 144 + 25$$

$$AD^2 = 169$$

$$AD = \sqrt{169}$$

$$AD = 13$$

Video Solution:

Q11 Text Solution:

The sum of the lengths of any two sides of a triangle must be greater than the length of the third side.

Let the third side be x .

We have:

$$10 - 4 < x < 10 + 4$$

$$6 < x < 14$$

Since all sides are integers:

The smallest possible value of x : 7

The largest possible value of x : 13

So, the largest and smallest possible integer values for the third side are:

Largest: 13 cm

Smallest: 7 cm

Video Solution:**Q12 Text Solution:**

We know that

Sum of two sides of a triangle is greater than third side.

Here, three sides are a , b and c .

$$\text{So, } a + b > c$$

$$\text{or } 6 + a > c$$

$$\text{or } 15 > c$$

$$\text{Also, } 6 + c > 9$$

$$\text{or } c > 3$$

So, the integral values c can assume is

4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14

Total number = 11

Video Solution:**Q13 Text Solution:**

By the linear pair property,

$$\begin{aligned} 120^\circ + 3x &= 180^\circ \\ \Rightarrow 3x &= 180^\circ - 120^\circ \\ \Rightarrow 3x &= 60^\circ \\ \text{or } x &= 20^\circ \end{aligned}$$

Ans. c

Video Solution:**Q14 Text Solution:**

Let one angle be m

Then another = $90^\circ - m$

$$\begin{aligned} \text{Now, } (90^\circ - m) - m &= 36^\circ \\ \Rightarrow -2m &= 36^\circ - 90^\circ \text{ or } m = 27^\circ \end{aligned}$$

$$\text{So, } (90 - m) = 63^\circ$$

Ans. c

Video Solution:**Q15 Text Solution:**

Because $l \parallel m$ and $n \parallel 0$. a and b will be alternate exterior angles. i.e. $a = b$ or $b = 30^\circ$

Ans. a

Video Solution:



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