

Properties of Triangle Worksheet – 3

1. If the measures of the angles of a triangle are $(2p)^\circ$, $(3p - 15)^\circ$ and $(4p - 12)^\circ$. Then the value of 'p' is _____.

- a) 12
- b) 20
- c) 23
- d) 25

2. The angles of a triangle are in the ratio 2 : 3 : 5. The measure of the largest angle is _____.

- a) 30°
- b) 36°
- c) 54°
- d) 90°

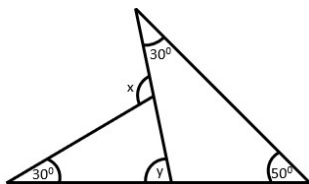
3. In a triangle PQR, if $2\angle P = 3\angle Q = 6\angle R$, then find the measure of all the angles.

- a) $\angle P = 90^\circ$, $\angle Q = 30^\circ$, $\angle R = 60^\circ$
- b) $\angle P = 90^\circ$, $\angle Q = 60^\circ$, $\angle R = 30^\circ$
- c) $\angle P = 30^\circ$, $\angle Q = 90^\circ$, $\angle R = 60^\circ$
- d) $\angle P = 60^\circ$, $\angle Q = 30^\circ$, $\angle R = 90^\circ$

4. In a triangle XYZ, If $\angle X - \angle Y = 33^\circ$ and $\angle Y - \angle Z = 18^\circ$, then find the value of $\angle X$, $\angle Y$ and $\angle Z$.

- a) $\angle X = 88^\circ$, $\angle Y = 37^\circ$, $\angle Z = 55^\circ$
- b) $\angle X = 37^\circ$, $\angle Y = 55^\circ$, $\angle Z = 88^\circ$
- c) $\angle X = 37^\circ$, $\angle Y = 88^\circ$, $\angle Z = 55^\circ$
- d) $\angle X = 88^\circ$, $\angle Y = 55^\circ$, $\angle Z = 37^\circ$

5. Find the value of 'x' and 'y' in the below given figure.

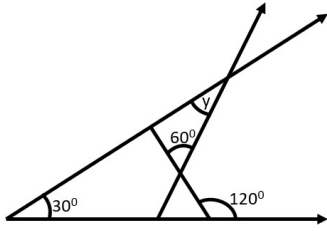


- a) $x = 110^\circ$, $y = 80^\circ$
- b) $x = 80^\circ$, $y = 110^\circ$
- c) $x = 100^\circ$, $y = 70^\circ$
- d) $x = 70^\circ$, $y = 100^\circ$

6. One of the exterior angles of a triangle is 120° , and the interior opposite angles are equal to each other. What is the measure of these two angles?

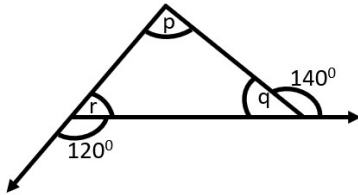
- a) 30°
- b) 36°
- c) 54°
- d) 60°

7. Find the value of 'p' and 'q' in the below given figure.



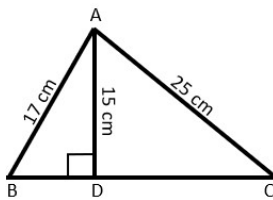
- a) 50°
- b) 36°
- c) 30°
- d) 60°

8. Find the value of 'p', 'q', and 'r' in the below given figure.



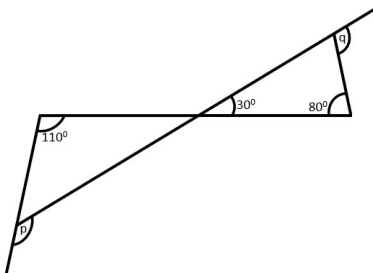
- a) $p = 88^\circ, q = 37^\circ, r = 55^\circ$
- b) $p = 80^\circ, q = 40^\circ, r = 60^\circ$
- c) $p = 90^\circ, q = 40^\circ, r = 60^\circ$
- d) $p = 80^\circ, q = 60^\circ, r = 40^\circ$

9. In the below given figure, $\angle ADB = 90^\circ$, $AB = 17$ cm, $AC = 25$ cm and $AD = 15$ cm. Find the value of BD .



- a) 12 cm
- b) 20 cm
- c) 23 cm
- d) 28 cm

10. Find the value of 'p' and 'q' in the below given figure.



a) $p = 110^\circ, q = 40^\circ$

b) $p = 140^\circ, q = 110^\circ$

c) $p = 40^\circ, q = 110^\circ$

d) $p = 110^\circ, q = 140^\circ$

11. In the isosceles triangle, the vertical angle is 30° more than each of its base angles. Find all the angles.

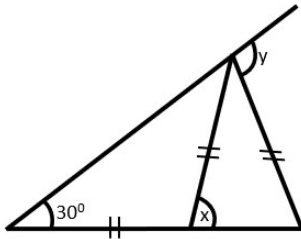
a) $60^\circ, 60^\circ, 60^\circ$

b) $40^\circ, 40^\circ, 100^\circ$

c) $50^\circ, 50^\circ, 80^\circ$

d) $30^\circ, 30^\circ, 120^\circ$

12. Find the value of 'x' and 'y' in the below given figure.



a) $x = 60^\circ, y = 90^\circ$

b) $x = 80^\circ, y = 90^\circ$

c) $x = 90^\circ, y = 60^\circ$

d) $x = 70^\circ, y = 90^\circ$

13. Find the perimeter of a triangle having sides as 15 cm, 12 cm, and 20 cm.

a) 12 cm

b) 47 cm

c) 27 cm

d) 28 cm

14. Find the area of a rectangle whose length is 8 cm and diagonal length is 10 cm.

a) 20 cm^2

b) 40 cm^2

c) 30 cm^2

d) 60 cm^2

15. Find all the angles of an isosceles right-angled triangle.

a) $60^\circ, 60^\circ, 60^\circ$

b) $45^\circ, 45^\circ, 90^\circ$

c) $50^\circ, 50^\circ, 80^\circ$

d) $30^\circ, 30^\circ, 120^\circ$

16. The difference of the length of any two sides of a triangle is greater than the length of the third side. Mark True / False.

a) True

b) False

17. A right angled triangle can have same base and height. Mark True / False.

a) True

b) False

18. Any angles of an equilateral triangle can be 45° . Mark True / False.

a) True

b) False

19. Every equilateral triangle can be an isosceles triangle. Mark True / False.

a) True

b) False

20. In a right-angled triangle, the sum of two acute angles is greater than 90° . Mark True / False.

a) True

b) False