



# ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION



## CLASS 8

**SUBJECT :Algebra and Geometry**

**Worksheet 1 answer key**

**Marks:15**

**QUADRILATERAL**

**Date:7.4.2020**

### Answer all the following questions( $1 \times 15 = 15$ )

1. Three angles of a quadrilateral are  $80^\circ$ ,  $95^\circ$  and  $112^\circ$ . Its fourth angle is
- $78^\circ$
  - $73^\circ$
  - $85^\circ$
  - $100^\circ$

Answer:b

Explanation: $80+95+112+x=360$ ,  $x=360-287=73^\circ$

2. The angles of a quadrilateral are in the ratio 3:4:5:6. The smallest angle is
- $45^\circ$
  - $60^\circ$
  - $36^\circ$
  - $48^\circ$

Answer:b

Explanation: $3x+4x+5x+6x=360$ ,  $x=20$ ,  $(3 \times 20) = 60^\circ$

3. In quadrilateral ABCD, angle A =  $120^\circ$  and the rest of the angles are all equal, then angle B is
- $80^\circ$
  - $60^\circ$
  - $45^\circ$
  - None of these

Answer:a

Explanation: $120+x+x+x=360$ ,  $x=240 \div 3 = 80^\circ$

4. Number of pairs of opposite sides of a quadrilateral is
- 1
  - 4
  - 2
  - none of these

Answer:c

Explanation:AB, CD and AD, BC

5. A quadrilateral with equal sides and equal angles is a
- a) rectangle
  - b) square
  - c) kite
  - d) none of these

Answer:b

Explanation:Square has all sides equal and each angle is  $90^\circ$

6. In quadrilateral ABCD, if AO and BO are the bisectors of angle A and angle B respectively, angle  $C=70^\circ$  and angle  $D=30^\circ$ . Then angle AOB=?
- a)  $40^\circ$
  - b)  $50^\circ$
  - c)  $80^\circ$
  - d)  $100^\circ$

Answer:b

Explanation: angle A + angle B =  $360 - (30 + 70) = 260$ ,  
( angle A + angle B ) / 2 = 130,  
Angle AOB =  $180 - 130 = 50^\circ$

7. If the sides of a quadrilateral are produced in order, the sum of four exterior angles so formed is
- a)  $360^\circ$
  - b)  $180^\circ$
  - c)  $90^\circ$
  - d)  $270^\circ$

Answer:a

Explanation:By property

8. A quadrilateral is a figure made of four line segments no three of which are
- a) parallel
  - b) coincident
  - c) collinear
  - d) none of these

Answer:c

Explanation:If three points lie on a straight line, then they are collinear

9. In a quadrilateral PQRS, PR and QS are known as its
- a) sides
  - b) angles
  - c) altitudes
  - d) diagonals

Answer:d

Explanation:By definition

10. The sum of the angles of a quadrilateral is equal to
- a) 4 right angles
  - b) 2 right angles

- c) 6 right angles
- d) none of these

Answer:a

Explanation:2 triangles are formed by a diagonal.So sum of angles of 2 triangles= $180+180=360^{\circ}=4\times 90$

11. A diagonal divides a quadrilateral into how many triangles?

- a) 3
- b) 2
- c) 1
- d) 0

Answer:2

Explanation:Join vertices A and C

12. How many pairs of adjacent angles does a quadrilateral have?

- a) 2
- b) 1
- c) 6
- d) 4

Answer:d

Explanation:angles A, B; angles B, C ; angles C, D ;angles D, A

13. The fourth angle of the quadrilateral that has three acute angles is

- a) acute
- b) right
- c) obtuse
- d) straight

Answer:c

Explanation:let the three acute angles be  $89^{\circ}$  each.fourth angle= $360-267=93^{\circ}$  which is obtuse

14. If the angles of a quadrilateral are  $x^{\circ}$ ,  $(2x+13)^{\circ}$ ,  $(3x+10)^{\circ}$ ,  $(x-6)^{\circ}$ , find x

- a)  $49^{\circ}$
- b)  $14^{\circ}$
- c)  $7^{\circ}$
- d) none of these

Answer:a

Explanation:  $x+2x+13+3x+10+x-6=360$ ,  $x=343/7 =49^{\circ}$

15. If the sum of three exterior angles of a quadrilateral is  $270^{\circ}$ , then the fourth exterior angle is

- a)  $120^{\circ}$
- b)  $90^{\circ}$
- c)  $360^{\circ}$
- d)  $75^{\circ}$

Answer:b

Explanation: $360-270=90^{\circ}$

