MATHS

BOOKS - SWAN PUBLICATION

PRACTICAL GEOMETRY

Exercise 10 1

1. What is the use of instrument ruler ?

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2. What is the use of protractor?

3. What is the use of Compasses ?

4. Construct the following angles using set-squares :

$30°$

5. Construct the following angles using ruler and compass . Write steps of construction

(i) $75°$ (ii) $150°$ (iii) $135°$

6. Construct the following angles using ruler and compass . Write steps of construction

(i) $75°$ (ii) $150°$ (iii) $135°$

7. Construct the following angles using ruler and compass . Write steps of construction

(i) $75°$ (ii) $150°$ (iii) $135°$

8. Construct the following angles using ruler and compass . Write steps of construction

(i) $75°$ (ii) $150°$ (iii) $135°$

1. With the help of a ruler, construct line segments of given lengths:

5 cm

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2. With the help of a ruler, construct line segments of given lengths:

6.5 cm

3. With the help of a ruler, construct line segments of given lengths:

5.2 cm

4. With the help of a ruler, construct line segments of given lengths:

6.8 cm

5. With the help of a ruler, construct line segments of given lengths:

9.7 cm

6. With the help of a ruler, construct line segments of given lengths:

8.4 cm

7. Draw line segments given by using a ruler and compasses.

5 cm

8. Draw line segments given by using a ruler and compasses.

6.5 cm

9. Draw line segments given by using a ruler and compasses.

5.2 cm

10. Draw line segments given by using a ruler and compasses.

6.8 cm

11. Draw line segments given by using a ruler and compasses.

9.7 cm

12. Draw line segments given by using a ruler and compasses.

8.4 cm

13. Construct AB of length 8.4 cm. From it cut

off AC of length 5.3 cm. Measure BC.

14. Draw two line segments AB and CD of

lengths 8.4 cm and 4.5 cm respectively.

Construct the line segments of the following

lengths:

$$AB + CD$$

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15. Draw two line segments AB and CD of lengths 8.4 cm and 4.5 cm respectively. Construct the line segments of the following lengths:

$$AB - CD$$

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16. Draw two line segments AB and CD of lengths 8.4 cm and 4.5 cm respectively. Construct the line segments of the following lengths:

$2CD$

17. Draw two line segments PQ and RS of lengths 6.4 cm and 3.6 cm respectively. Construct the line segment of the following

lengths :

$PQ + RS$

18. Draw two line segments PQ and RS of lengths 6.4 cm and 3.6 cm respectively. Construct the line segment of the following lengths :

$PQ + RS$

19. Draw two line segments PQ and RS of lengths 6.4 cm and 3.6 cm respectively. Construct the line segment of the following lengths :

$2PQ$

20. Draw two line segments PQ and RS of lengths 6.4 cm and 3.6 cm respectively. Construct the line segment of the following

lengths :

$2RS$

21. Draw two line segments PQ and RS of lengths 6.4 cm and 3.6 cm respectively. Construct the line segment of the following lengths :

$3RS$

22. Draw a line segment PQ of any length Now without measuring it, draw a copy of PQ.

Exercise 10 3

1. Draw a line r and mark a point P on it. Construct a line perpendicular to r at point P.

Using a ruler and compasses

2. Draw a line r and mark a point P on it.

Construct a line perpendicular to r at point P.

Using a ruler and a set square.

3. Draw a line p and mark a point Z above it.

Construct a line perpendicular top, from the

point Z.

Using a ruler and compasses.

4. Draw a line p and mark a point Z above it. Construct a line perpendicular top, from the point Z.

Using a ruler and compasses.

5. Draw a line AB and mark two points P and Q on either side of line AB, Construct two lines

perpendicular to AB, from P and Q using a ruler and compasses.

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6. Draw a line segment of 7 cm and draw perpendicular bisector of this line segment.

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7. Draw a line segment PQ = 6.8 cm and draw its perpendicular bisector XY which bisect PQ

at M. Find the length of PM and QM. Is PM =

QM ?

8. Draw perpendicular bisector of line segment

AB = 5.4 cm. Mark point X anywhere on

perpendicular bisector Join X with A and B. Is

AX = BX ?

9. Draw perpendicular bisectors of line segment of the following lengths:

8.2 cm

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10. Draw perpendicular bisectors of line segment of the following lengths:

7.8 cm

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11. Draw perpendicular bisectors of line segment of the following lengths:

6.5 cm

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12. Draw a line segment of length 8 cm and divide it into four equal parts using compasses. Measure each part.

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1. Draw a circle of the following radius:

3.5 cm

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2. Draw a circle of the following radius:

5 cm

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3. Draw a circle of the following radius:

2.8 cm

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4. Draw a circle of the following radius:

4.7 cm

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5. Draw a circle of the following radius:

5.2 cm

6. Draw a circle of the diameter 6 cm.

7. With the same centre O, draw two concentric circles of radii 3.2 cm and 4.5 cm.

8. Draw any circle and mark points A,B and C such that

A is on the circle. B is in the interior of circle.C is in the exterior of circle.

9. Draw a circle of radius 3 cm and draw any chord. Draw the perpendicular bisector of the chord. Does the perpendicular bisector passes through the centre ?

Exercise 10 5

1. Draw the following angles in both directions

(Left and right) by protractor.

75°

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2. Draw the following angles in both directions

(Left and right) by protractor.

$110°$

3. Draw the following angles in both directions

(Left and right) by protractor.

$62°$

4. Draw the following angles in both directions

(Left and right) by protractor.

165°

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5. Draw the following angles in both directions

(Left and right) by protractor.

170°

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6. Draw the following angles in both directions

(Left and right) by protractor.

32°

7. Draw the following angles in both directions

(Left and right) by protractor.

128°

8. Draw the following angles in both directions

(Left and right) by protractor.

80°

9. Draw the following angles in both directions (Left and right) by protractor.

135°

10. Bisect the following angles by compasses :

45°

11. Bisect the following angles by compasses :

$140°$

12. Bisect the following angles by compasses :

$75°$

13. Bisect the following angles by compasses :

64°

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14. Bisect the following angles by compasses :

124°

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15. Draw an angle of 80º and bisect it in to four equal parts by compasses.

16. Draw a right angle and construct its bisector.

17. Draw the following angles by ruler and compasses :

$30°$

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18. Draw the following angles by ruler and compasses :

$30°$

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19. Draw the following angles by ruler and compasses :

$135°$

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20. Draw the following angles by ruler and compasses :

$180°$

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21. Draw the following angles by ruler and compasses :

$120°$

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22. Draw the following angles by ruler and compasses :

$30°$

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23. Draw an angle of 30º by protractor and bisect it by a ruler and compasses.

Exercise 10 6

1. Draw a line XY and point P not lying on XY. Draw a line parallel to XY passing through P with the help of ruler and compasses.

2. Draw a line p parallel to line m passing through a point A which is not lying on line m with the help of set squares.

3. Given a line AB and the point X is not lying on it. Draw a line parallel to AB passing through X.

By a ruler and compasses

4. Given a line AB and the point X is not lying on it. Draw a line parallel to AB passing through X.

By set squares.

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