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|  | INDIAN SCHOOL AL WADI AL KABIR | |
| Class: XI | Department: SCIENCE 2020 – 2021 SUBJECT: ENGINEERING GRAPHICS | Date of completion: 28.06.2020 |
| Worksheet No:3 With Answers | Topic: <u>SPECIAL CURVES</u> | Note: A4 FILE FORMAT |
| NAME OF THE STUDENT | CLASS/ SECTION | ROLL NO. |

Questions

1. Construct an ellipse with major axis AB= 60 mm and minor axis CD = 40 mm, by means of concentric circles method.

2. Construct the involute of a circle of diameter 20 mm.

3. Draw a cycloid of a circle of diameter 30 mm.

4. Draw the helix of a circle of diameter 20 mm and pitch is given as 60 mm.

5. Construct a sine curve of a circle of diameter 30 mm.

6. Construct a parabola by intersecting arcs method.

MULTIPLE CHOICE QUESTIONS

1. When a cone is sectioned parallel to its generator, the section is a -----

- a) Circle
- b) Semi circle
- c) Parabola
- d) Ellipse

2. When a cone is sectioned by a plane, inclined to its axis and is not parallel to its generators, the section is called as an -----

- a) Hyperbola
- b) Eccentric circles
- c) Concentric circles
- d) Ellipse

3. The longest diameter of the ellipse is called -----

- a) Transversal
- b) Major axis
- c) Minor axis
- d) Vertex

4. When a cone is sectioned parallel to its base, the section is a -----

- a) Secant
- b) Circle
- c) Transversal
- d) Ellipse

5. The curve generated by a point on the circumference of a circle rolling along a straight line is called a -----

- a) Involute
- b) Spiral
- c) Helix
- d) Cycloid

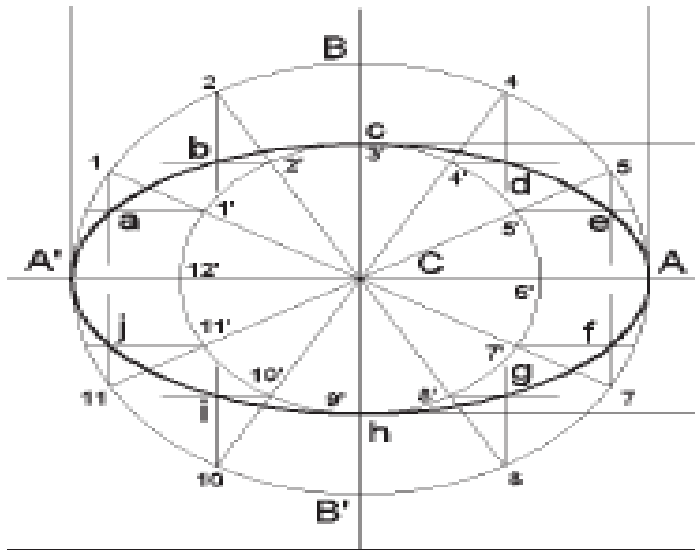
SOLUTIONS

MULTIPLE CHOICE QUESTIONS

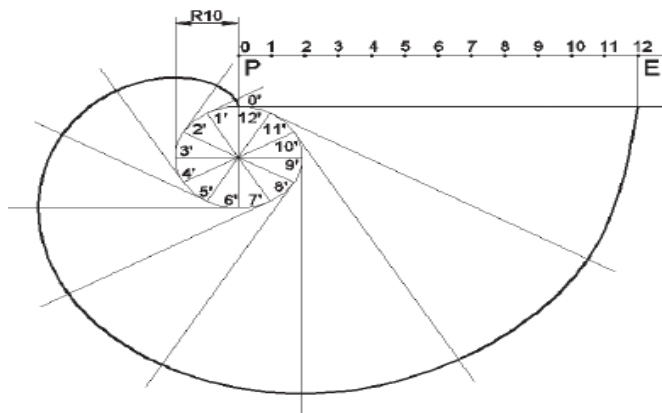
1. c) Parabola
2. d) Ellipse
3. b) Major axis
4. b) Circle
5. d) Cycloid

Solutions for Drawings

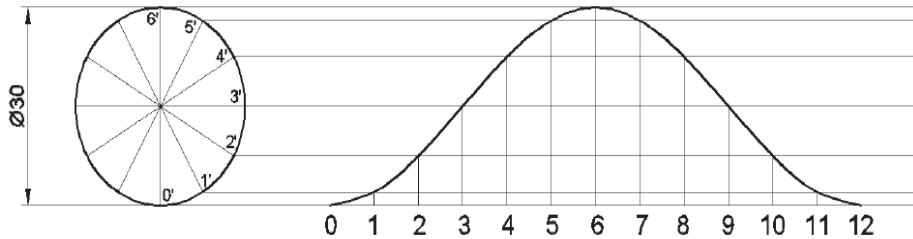
1. Hint : Construct two circles with given diameters and draw horizontal lines from inner circle and vertical lines from outer circles, join the intersection points with free hand.



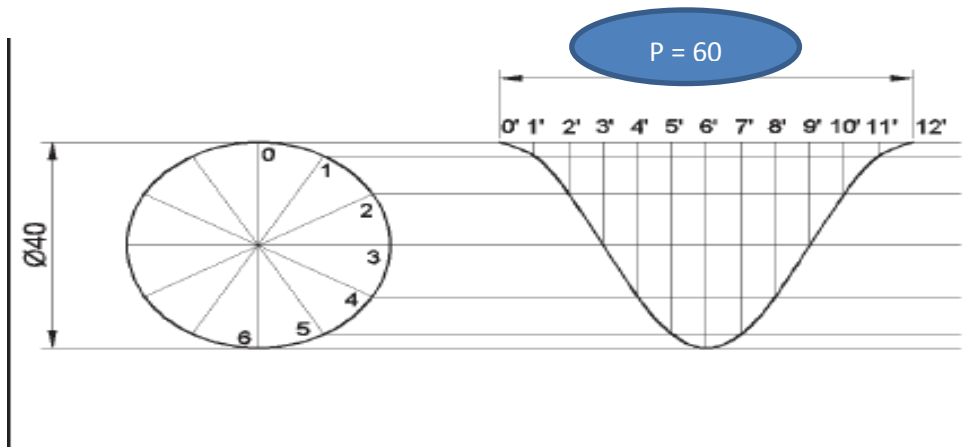
2. Hint : Construct a circle with given diameter and divide the circle into 12 equal parts, draw tangents from 12 divisions, join all the points with free hand.



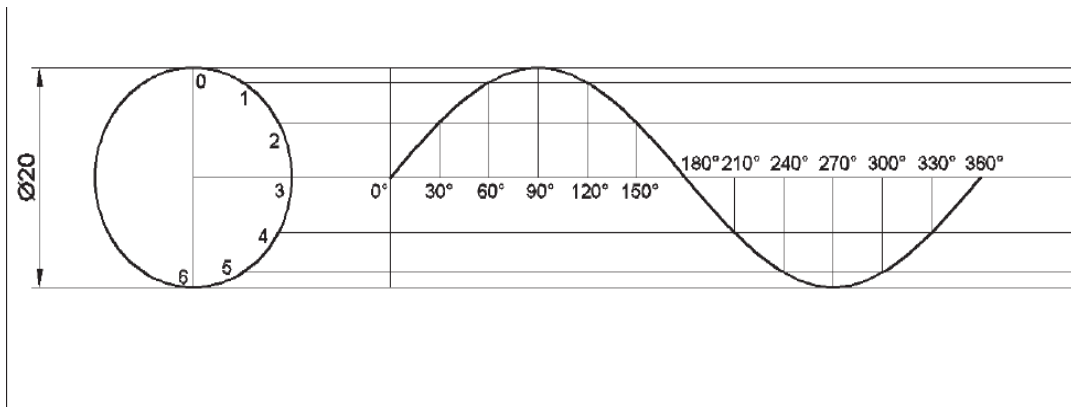
3.Hint : Draw a circle with given diameter and divide circle into 12 equal parts , draw horizontal lines from each point and take the circumference difference and divide the straight line into 12 parts. Join all the points.



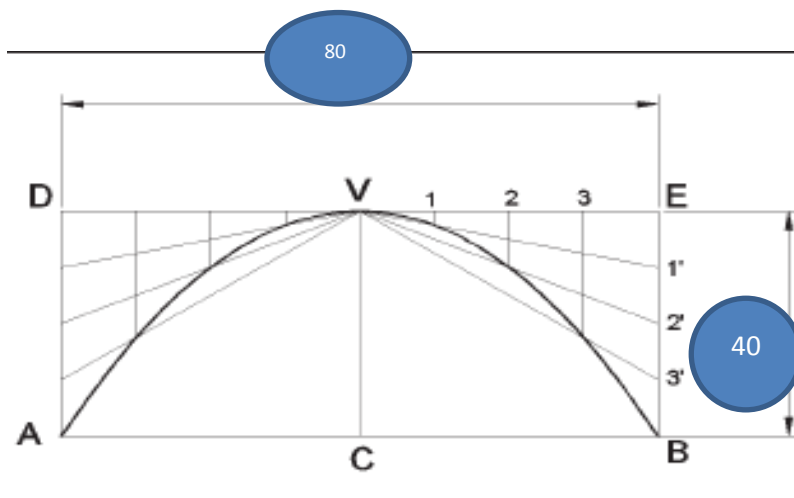
4.Hint : Draw a circle with given diameter and divide circle into 12 equal parts , draw horizontal lines from each point, and take the pitch length and divide the straight line into 12 parts. Join all the points.



5.Hint : Draw a circle with given diameter and divide the circle into 12 equal parts, draw horizontal lines from each point and take the circle circumference difference and divide 12 times in terms of degrees (0 degree to 360 degree).Join all the points with free hand to get a wave form called sine curve.



6. Hint: Draw a rectangle with 80mm and 40mm and draw horizontal lines and vertical lines from the midpoint, join all the points with free hand to get parabola.



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