Indira Gandhi Delhi Technical University For Women

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APPLIED MATHEMATICS (BAS-101)
TUTORIAL SHEET -6
(Curve Tracing)

Q1. Trace the curve $xy^2 = 4a^2(2a - x)$.

Q2. Trace the curve $y^2(2a - x) = x^3$.

Q3. Trace the curve $y^2(a + x) = x^2(a - x),\ a > 0$.

Q4. Trace the curve $a^2y^2 = x^2(a^2 - x^2)$.

Q5. Trace the curve $r = a(1 - \cos\theta)$.

Q6. Trace the curve $r = a\cos 2\theta$.

Q7. Trace the curve with parametric equations: $x = a\ cos^3\theta,\ y = b\ sin^3\theta$.

Answer Key:

Ans1.

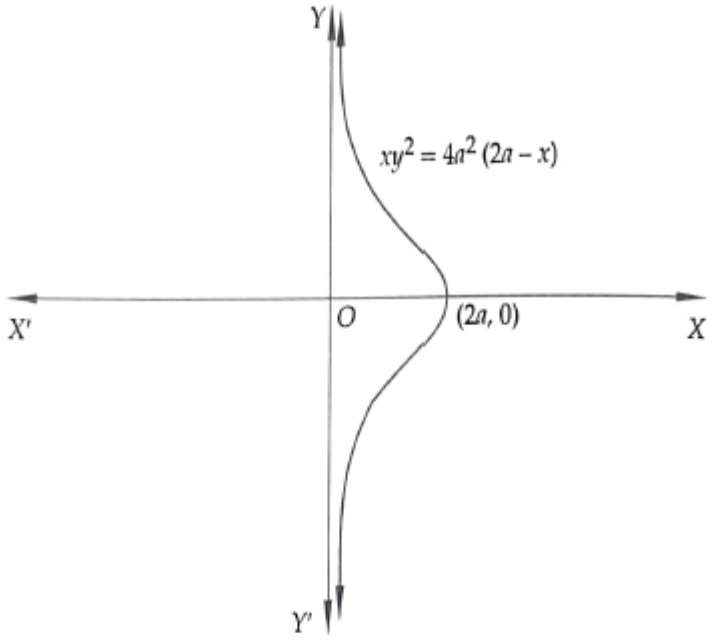

Fig. 6.3 Shape of $xy^2 = 4a^2(2a - x)$

Ans2.

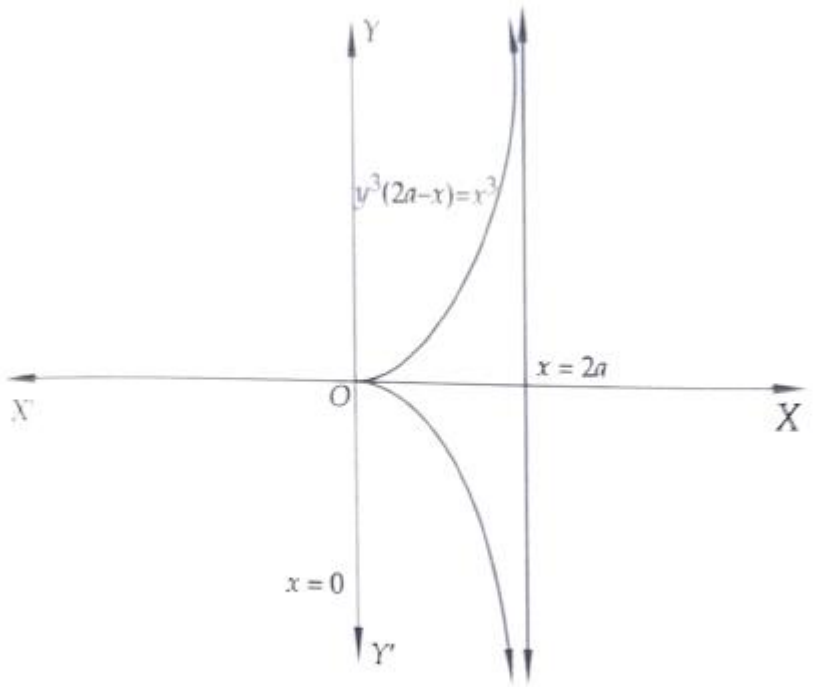

Fig. 6.2 Shape of the curve $y^2(2a-x) = x^3$

Ans3.

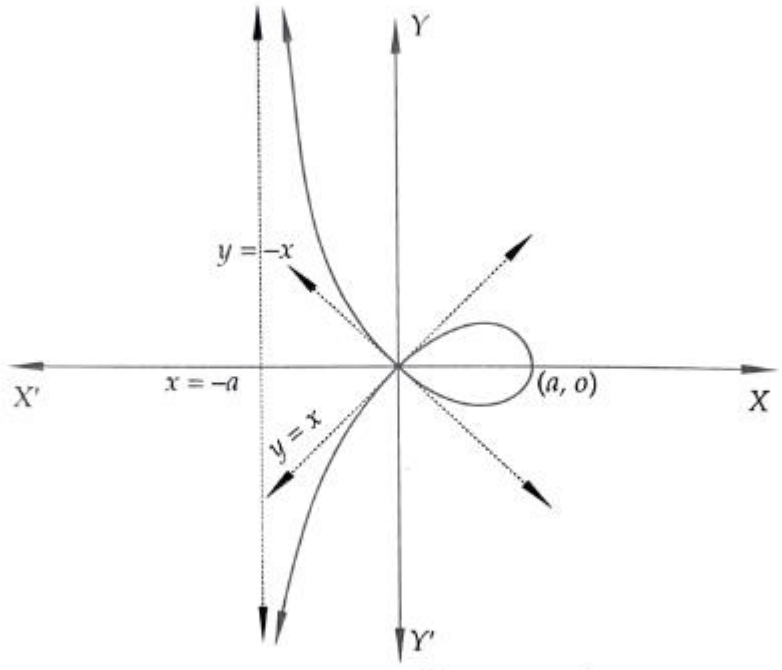

Fig. 6.5 Shape of the curve $y^2(a+x) = x^2(a-x)$, $a > 0$

Ans4.

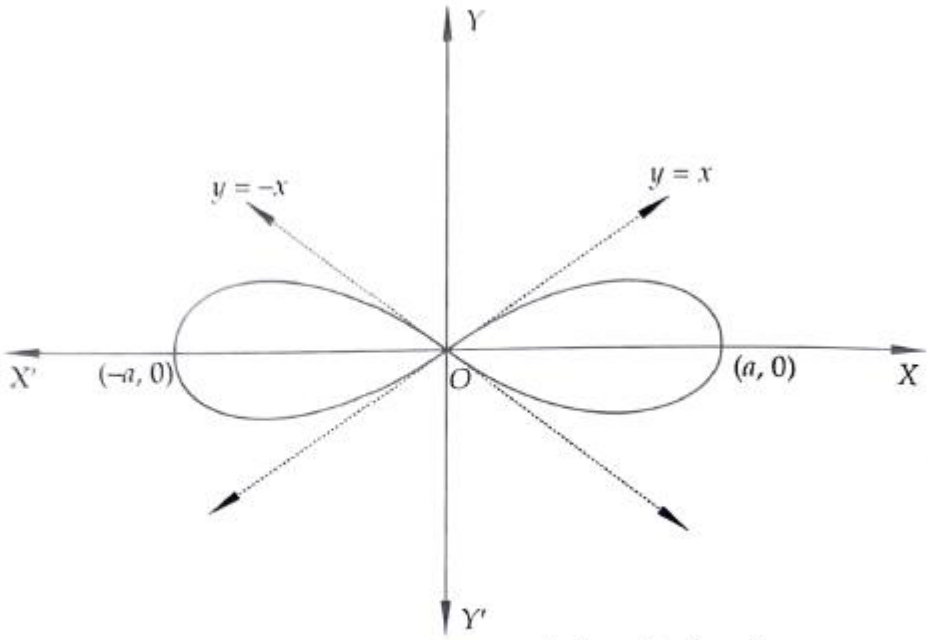

Fig. 6.7 Shape of the curve $a^2y^2 = x^2(a^2 - x^2)$

Ans5.

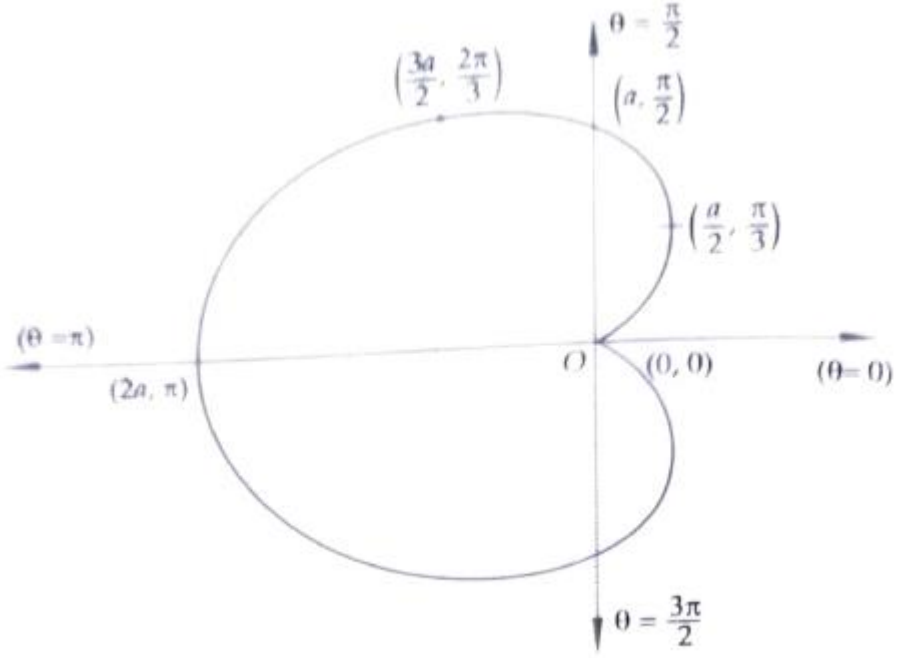

Fig. 6.15 Sketch of $r = a(1 - \cos\theta)$

Ans6.

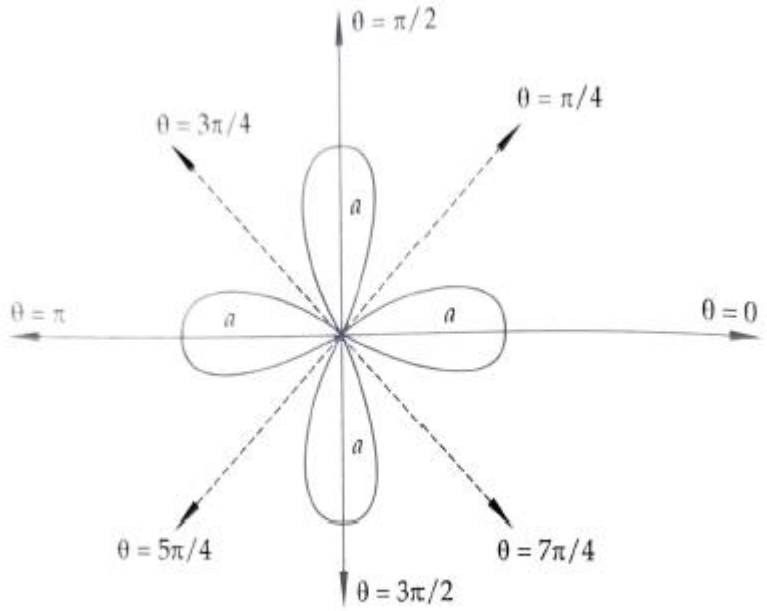

Fig. 6.22 Sketch of the curve $r = a \cos 2\theta$

Ans7.

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