## Exercise 8.3

Divide

1. $x + 2x^2 + 3x^4 - x^5$ by $2x$

Sol $$\frac{x + 2x^2 + 3x^4 - x^5}{2x}$$

$$= \frac{x}{2x} + \frac{2x^2}{2x} + \frac{3x^4}{2x} - \frac{x^5}{2x}$$

$$= \frac{1}{2} + x + \frac{3}{2}x^3 - \frac{1}{2}x^4$$

Q2 $y^4 - 3y^3 + \frac{1}{2}y^2$ by $3y$

Sol: $$\frac{y^4 - 3y^3 + \frac{1}{2}y^2}{3y} = \frac{y^4}{3y} - \frac{3y^3}{3y} + \frac{\frac{1}{2}y^2}{3y}$$

$$= \frac{1}{3}y^3 - y^2 + \frac{1}{6}y$$

Q3 $-4a^3 + 4a^2 + a$ by $2a$

Sol: $$\frac{-4a^3 + 4a^2 + a}{2a} = \frac{-4a^3}{2a} + \frac{4a^2}{2a} + \frac{a}{2a}$$

$$= -2a^2 + 2a + \frac{1}{2}$$

docs.aglasem.com

aglasem.com

Q.5 $5z^3 - 6z^2 + 7z$ by $2z$

Sol: $$\frac{5z^3 - 6z^2 + 7z}{2z}$$

$$= \frac{5z^3}{2z} - \frac{6z^2}{2z} + \frac{7z}{2z}$$

$$= \frac{5}{2}z^2 - 3z + \frac{7}{2}$$

Q.6 $\sqrt{3}a^4 + 2\sqrt{3}a^3 + 3a^2 - 6a$ by $3a$

Sol: $$\frac{\sqrt{3}a^4 + 2\sqrt{3}a^3 + 3a^2 - 6a}{3a}$$

$$= \frac{\sqrt{3}a^4}{3a} + \frac{2\sqrt{3}a^3}{3a} + \frac{3a^2}{3a} - \frac{6a}{3a}$$

$$= \frac{1}{\sqrt{3}}a^3 + \frac{2}{\sqrt{3}}a^2 + a - 2$$

aglasem

docs.aglasem.com

aglasem.com