

TOPIC 9

**ALGEBRAIC
EQUATIONS**

EXERCISES

Ex 9.1 Pg. 77

(1a, 2abc, 3, 4ac, 5bcd)

EXERCISE 9.1

- What number divided by 12 gives an answer of 72?
 - What number must be added to 8 to get an answer of -23 ?
 - What number when multiplied by 15 gives -90 ?
- Solve the following equations:
 - $x + 7 = 15$
 - $m - 2 = 17$
 - $5y = 3y + 12$
 - $13p - 6 = 33$
 - $5a - 22 = a - 2$
 - $n - 4 = -6$
- Solve for x :
 - $\frac{x}{2} = 25$
 - $\frac{x}{-3} = 12$
 - $\frac{x}{7} + 2 = -5$
 - $\frac{x-6}{2} = -1$
 - $\frac{2x-3}{2} - \frac{3x+1}{4} = 1$
 - $\frac{2(x-1)}{3} - \frac{3}{4} = \frac{3(2x+3)}{2} - 3$
- Solve for x :
 - $3(x-2) = 2(x-4)$
 - $2(2x-4) = 3(3x+4)$
 - $6 - 2(x-1) = 4x - 16$
 - $2(2x+9) - 2(x+3) = x + 11 - 5(4-x)$
- Solve the following equations:
 - $4(7x+6) = 3(9x+8)$
 - $\frac{x}{6} + x + 2 = x + \frac{5}{2}$
 - $\frac{x+3}{4} - \frac{x}{2} = \frac{x+2}{8} - 1$
 - $\frac{3}{4}(3x-5) - \frac{9}{4} = \frac{1}{2}(2x+4)$

Ex 9.2 Pg. 78 (No. 1, 2, 5)

EXERCISE 9.2

1. Solve for x :

a) $2^{x+1} = 16$

b) $3^x = \frac{1}{27}$

c) $2^{-x} = 32$

d) $8^x = 16$

e) $5^{2x-1} = 0,008$

f) $10^x = 0,0001$

2. Solve for x

a) $x^{\frac{3}{4}} = 8$

b) $2x^{-\frac{2}{3}} = 32$

c) $\frac{1}{3}x^5 = 81$

d) $2x^3 - 4 = 246$

3. If $5^{-2} \times 5^x = 1$, solve for x .

4. The product of the square of a number and the cube of the same number is equal to 32. Find the number.

5. Find the value of x if $\frac{a \times a^3}{\sqrt{a^2}} = a^x$

Revision Ex Pg. 81 (No. 1, 2, 3, 4, 5)

Revision

1. A number, increased by four times the number, is 35. Find the number. (2)
2. Solve the following equations:
 - a) $6a + 2 = 74$ (2)
 - b) $9n - 3 = -66$ (2)
 - c) $\frac{b}{4} = 5$ (1)
 - d) $\frac{2x-1}{3} = -5$ (3)
 - e) $\frac{y+1}{2} = \frac{2y+1}{5} - 1$ (4)
3. Solve for x :
 - a) $5(x - 2) = 3x - 4$ (3)
 - b) $3(2x - 7) = 2(x - 3)$ (3)
 - c) $4(2x - 1) = 2(2x + 3) + 2$ (4)
4. Solve for x :
 - a) $3^{x-1} = 81$ (2)
 - b) $4^{-x} = 32$ (2)
 - c) $2^x = 0,125$ (2)
5. The product of the square of a number and the cube of the same number is equal to 243. Find the number. (3)