

Exercise 7A

## Answer:

(i) 
$$12x + 15 = 3(4x + 5)$$

(ii) 
$$14m - 21 = 7(2m - 3)$$

(iii) 
$$9n - 12n^2 = 3n(3 - 4n)$$

## Q2

### Answer:

(i) H.C.F. of  $16a^2$  and 24ab is 8a.

$$16a^2 - 24ab = 8a(2a - 3b)$$

(ii) H.C.F. of  $15ab^2$  and  $20a^2b$  is 5ab.

$$15ab^2 - 20a^2b = 5ab(3b - 4a)$$

(iii) H.C.F. of  $12x^2y^3$  and  $21x^3y^2$  is  $3x^2y^2$ .

$$12x^2y^3 - 21x^3y^2 = 3x^2y^2(4y - 7x)$$

# Q3

## Answer:

(i) H.C.F. of  $24x^3$  and  $36x^2y$  is  $6x^2$ .

$$24x^3 - 36x^2y = 6x^2(4x - 6y)$$

(ii) H.C.F. of  $10x^3$  and  $15x^2$  is  $5x^3$ .

$$10x^3 - 15x^2 = 5x^2(2x - 3)$$

(iii) H.C.F. of  $36x^3y$  and  $60x^2y^3z$  is  $12x^2y$ .

$$36x^3y - 60x^2y^3z = 12x^2y(3x - 5y^2z)$$

Q4

#### Answer:

(i) H.C.F. of  $9x^3$ ,  $6x^2$  and 12x is 3x.

$$0.9x^3 - 6x^2 + 12x = 3x(3x^2 - 2x + 4)$$

(ii) H.C.F. of  $8x^3$ , 72xy and 12x is 4x.

$$8x^3 - 72xy + 12x = 4x(2x^2 - 18y + 3)$$

(iii) H.C.F. of  $18a^3b^3$ ,  $27a^2b^3$  and  $36a^3b^2$  is  $9a^2b^2$ .

$$18a^3b^3 - 27a^2b^3 + 36a^3b^2 = 9a^2b^2(2ab - 3b + 4a)$$

Q5

#### Answer:

(i) H.C.F. of  $14x^3$ ,  $21x^4y$  and  $28x^2y^2$  is  $7x^2$ .

$$14x^3 + 21x^4y - 28x^2y^2 = 7x^2(2x + 3x^2y - 4y^2)$$

(ii) H.C.F. of -5, -10t and  $20t^2$  is 5.

$$:. \ -5 - 10t + 20t^2 = 5 \left( -1 - 2t + 4t^2 \right)$$

Q6

Answer:

(i) 
$$x(x+3) + 5(x+3) = (x+3)(x+5)$$

(ii) 
$$5x(x-4)-7(x-4)=(x-4)(5x-7)$$

(iii) 
$$2m(1-n) + 3(1-n) = (1-n)(2m+3)$$

Q7

Answer:

We have:

$$6a(a-2b)+5b(a-2b)=(a-2b)(6a+5b)$$

Q8

Answer:

We have:

$$x^3(2a-b)+x^2(2a-b)=(2a-b)(x^3+x^2)=x^2(x+1)(2a-b)$$

Q9

Answer:

We have:

$$9a(3a-5b)-12a^2(3a-5b)=(3a-5b)\big(9a-12a^2\big)=3a(3a-5b)(3-4a)$$

Q10

Answer:

We have:

$$(x+5)^2 - 4(x+5) = (x+5)\{(x+5) - 4\}$$
$$= (x+5)(x+5-4)$$
$$= (x+5)(x+1)$$

$$(x+5)^2 - 4(x+5) = (x+5)(x+1)$$

Q11

Answer:

$$3(a-2b)^2 - 5(a-2b) = (a-2b)\{3(a-2b) - 5\}$$
  
=  $(a-2b)(3a-6b-5)$ 

$$3(a-2b)^2-5(a-2b)=(a-2b)(3a-6b-5)$$

Q12

Answer:

We have:

$$2a+6b-3(a+3b)^{2} = 2(a+3b)-3(a+3b)^{2}$$
$$= (a+3b)\{2-3(a+3b)\}$$
$$= (a+3b)(2-3a-9b)$$

$$2a + 6b - 3(a + 3b)^{2} = (a + 3b)(2 - 3a - 9b)$$

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