

Riviera International Academy

Assignment-2077

(Ashad 08, 2077, Monday)

Class: Ten

Subject-Mathematics

Source: Photo of exercise is given below.

Homework: Complete 8.1/8.2

Complete your work neatly.

EXERCISE 8.1

General section

1. Find the H.C.F. of the following expressions.

- a) $2x^2(x+2)(x-2)$ and $4x(x+2)(x+3)$
- b) $4xy^2(x-1)(x+2)$ and $6x^2y(x-1)(x-4)$
- c) $6a^2b^2(a-b)(2a+3b)$ and $9a^3b^3(2a+3b)(a+b)$
- d) $12a^2b^4(a-3b)(a+b-2)$ and $16a^3b^5(a+3b)(a+b-2)$
- e) $(p+q)(p-q)$, $(p-q)(p^2+pq+q^2)$ and $(p-q)(p+q)(p^2+q^2)$

2. Find the H.C.F. of the following expressions.

a) $a^2 - b^2$ and $a^3 + b^3$	b) $a^2 - 2a$ and $a^4 - 8a$
c) $x^2 - 9$ and $3x + 9$	d) $x^2 - y^2$ and $x^2 + 2xy + y^2$
e) $4x^2 - 100$ and $4x + 20$	f) $4x^2 + 8x^2$ and $5x^2 - 20x$
g) $a^2 - b^2 - 2a + 1$ and $a^2 - ab - a$	h) $x^3 - 8y^3$ and $x^2 + 2xy + 4y^2$
i) $p^4 - 16$ and $p^2 - p - 6$	j) $x^4 + 4y^4$ and $2x^3y + 4xy^3 + 4y^4$
k) $a^3 - 1$ and $a^4 + a^2 + 1$	l) $16x^4 - 4x^2 - 4x - 1$, $8x^2 - 1$

Creative Section

3. Find the H.C.F. of the following expressions.

- a) $a^2 - 4$, $a^3 + 8$, $a^2 + 5a + 6$
- b) $x^2 - 9$, $x^2 - 27$, $x^2 + x - 12$
- c) $4x^2 - 9$, $2x^2 + x - 3$, $8x^3 + 27$
- d) $3x^2 - 8x + 4$, $2x^2 - 5x + 2$, $x^4 - 8x$
- e) $5a^3 - 20a$, $a^3 - 3a^2 - 10a$, $a^3 - a^2 - 2a + 8$
- f) $m^3 - m^2 - m + 1$, $2m^4 - 2m$, $3m^2 + 3m - 6$
- g) $(a+b)^2 - 4ab$, $a^3 - b^3$, $a^2 + ab - 2b^2$
- h) $x^3 - 64y^3$, $x^2 - 6xy + 8y^2$, $x^2 - 16y^2$
- i) $4x^4 + 16x^3 - 20x^2$, $3x^3 + 14x^2 - 5x$, $x^6 + 125x$
- j) $x^3 - 1$, $x^4 + x^2 + 1$, $x^3 + 1 + 2x^2 + 2x$
- k) $8x^2 + 27y^3$, $16x^4 + 36x^2y^2 + 81y^4$, $4x^3 - 6x^2y + 9xy^2$
- l) $x^3y + y^4$, $x^4 + x^2y^2 + y^4$, $2ax^3 - 2ax^2y + 2axy^2$
- m) $a^2 + 2ab + b^2 - c^2$, $b^2 + 2bc + c^2 - a^2$, $c^2 + 2ca + a^2 - b^2$
- n) $9x^2 - 4y^2 - 8yz - 4z^2$, $4z^3 - 4y^2 - 9x^2 - 12xy$, $ax^2 + 12xz + 4z^2 - 4y^2$
- o) $x^2 - 18x - 19 + 20y - y^2$, $x^2 + x - y^2 + y$, $x^2 - y^2 + 2y - 1$

EXERCISE 8.2

9.

General section

1. Find the L.C.M. of the following expressions.

- $3x(x+1)(x-1)$ and $2x^2(x-1)(x+3)$
- $4x^3(x-3)(x+2)$ and $6x^2(x+2)(x+3)$
- $8a^2b(a-b)(a^2+ab+b^2)$ and $12ab^2(a-b)(a+b)$
- $(x+2)(x+3)$, $(x+3)(x-2)$, $(x-2)(x-3)$
- $(a-3)(a-4)$, $(a-4)$, $(a-5)$, $(a-5)(a-3)$

2. Find the L.C.M. of the following expressions.

- | | | |
|---------------------------------------|---------------------------------------|---|
| a) $3x^2 + 6x$, $2x^2 + 4x^3$ | b) $ax^2 + ax$, $ax^2 - a$ | c) $4x^2y^4 + 2x^4y^6$, $10x^4y^4 + 5xy^2$ |
| d) $x^2 - xy$, $x^2y - xy^2$ | e) $4x^2 - 2x$, $8x^2 - 2x$ | f) $a^3 - b^3$, $a^2 + ab + b^2$ |
| g) $x^2 + 5x + 6$, $x^2 - 4$ | h) $x^2 - 9$, $3x^3 + 81$ | i) $a^4b - ab^4$, $a^4b^2 - a^2b^4$ |
| j) $x^4 + x^2y^2 + y^4$, $x^2 - y^2$ | k) $a^4 + a^2b^2 + b^4$, $a^3 + b^3$ | l) $6x^2 - x - 1$, $54x^4 + 2x$ |

Relative Section

Find the L.C.M. of the following expressions.

- | | |
|--|--|
| a) $a^2 - 4$, $a^2 - 8$, $(a+2)^2$ | b) $(a-3)^2$, $a^2 - 9$, $a^3 + 27$ |
| c) $a^3 - 2a^2 + a$, $a^3 + a^2 - 2a$, $a^3 - 4a$ | d) $x^4 - y^4$, $x^2 - y^2$, $x^2 - y^2$ |
| e) $4x^3 - 10x^2 + 4x$, $3x^4 - 8x^3 + 4x^2$, $x^4 - 8x$ | f) $x^2 - 9x$, $x^4 - 2x^3 - 3x^2$, $x^4 - 27$ |
| g) $a^3 - 4a$, $a^4 - a^3 - 2a^2$, $a^3 - 8$ | h) $a^4 + a^2 + 1$, $a^3 - 1$, $a^3 - a^2$ |
| i) $a^2 + 2ab + b^2 - c^2$, $b^2 + 2bc + c^2 - a^2$, $c^2 + 2ca + a^2 - b^2$ | |
| j) $x^3 - 2x^2y + 2xy^2 - y^3$, $x^4 - y^4$, $x^2 + y^2$ | |
| k) $x^2 + 3x + 2$, $x^2 + 5x + 6$, $x^2 + 4x + 3$ | |
| l) $2x^3 + 2x^2 - 12x$, $6x^3 - 6x^2 - 72x$, $4x^3 - 24x^2 + 32x$ | |

Subject- Science

Give reason of the following:

- It is easier to swim on sea water than the pond, why?
- Why the shape of the vessel does not affect liquid pressure?
- A ship coming from the sea water enters the river; will its hull sink more or less in river? Give reason.
- A hole at the bottom of a boat is more dangerous than that at the side, why?
- It is easier to lift a heavy stone inside the water, why?

Subject- Social Studies

Give very short answer for the following questions.

- Which are the largest and smallest provinces of Nepal?
- Among the provinces of Nepal which has the largest population?
- Which province do Mt. Everest and Lumbini lie in?
- Mention any two socio cultural features of province no. 5.
- How far is your home from the federal capital of Nepal? Write the distance.

The End.