Solutions - Lecture 6 - Homework

Question 1.

Solution. The only divisors of p are 1 and p, since its prime. Hence if p divides x, then the greatest common divisor in p, else the greatest common divisor is 1. Thus the only possibilities are $1, p$.

Question 2.

Solution. 433, 79.

Question 3.

Solution.

(a) $363 = 3 \cdot 11 \cdot 11 = 3 \cdot 11^2$.

(b) $237 = 3 \cdot 79$.

(c) $688 = 2 \cdot 2 \cdot 2 \cdot 2 \cdot 43 = 2^4 \cdot 43$.

(d) $732 = 2 \cdot 2 \cdot \cdot 3 \cdot 61 = 2^2 \cdot 3 \cdot 61$.

Question 4.

Solution.

(a) $1/(x^4 y^{10})$.

(b) $(x^{18} y^{21})/z^6$.

(c) $(a^{12} b^2)/(4z^{12})$.

(d) $16^{\frac{3}{2}} = (16^{\frac{1}{2}})^3 = \left(\sqrt{16} \right)^3 = (4)^3 = 64$.

Question 5 - 12.   Refer to Textbook Solutions, ask me if you need clarification.