

REVIEW TEST 2 – Chapters 5, 6, 7

Chapter 5 – Exponents and Polynomials

- **Homework # 3** – Chapter 5 - All homework problems.
- **All examples done in class**
- **More practice:**

1) Simplify each expression. Write the final answer using only positive exponents.

a) $\left(\frac{2a^{-2}b}{3ab^{-3}}\right)^3$ b) $\frac{a^0 + b^0}{2(a+b)^0}$ c) $\frac{(-3p^4q^{-5})^{-3}(2p^{-4}q^3)^{-2}}{4p^5q^{-2}}$ d) $\left(\frac{2x^{-4}y}{x^5y^5}\right)^{-3}\left(\frac{4x^{-2}y^0}{x^7y^2}\right)^2$ e) $\frac{(-2x^2y^3)^2(3x^4y^5)^3}{(2x^2)^6(3y^8)}$

2) Simplify:

a) $(x+1)^3$ b) $(2a-1)^3$ c) $(x+2)^4$ d) $\left(\frac{1}{2}x^2 + \frac{2}{5}x - 1\right)\left(4x^3 - \frac{5}{3}x^2 - x + \frac{1}{2}\right)$ e) $\left(\frac{2}{3}x + \frac{5}{6}y\right)^2$
 f) $(a^2b - ab^2)^2$ g) $\left(\frac{3}{2}a - \frac{8}{9}b^2\right)^2$ h) $\left(\frac{10}{11}x - 1\right)\left(\frac{10}{11}x + 1\right)$ i) $\left(3p + \frac{5}{4}q\right)\left(2p - \frac{5}{3}q\right)$

3) Let $P(x) = -x^5 + 3x^4 - \frac{1}{2}x^2 - 10$, $Q(x) = (x^4 - 3x - 1)(-x^2 - 5)$ two polynomials.

- a) How many terms does each polynomial have? ; b) What is the degree of each polynomial?;
 c) What is the constant term of each? ; d) Find $P(0)$ and $Q(-1)$; e) Find their sum and product;
 f) Find $P(x) - Q(x)$; g) Divide Q by P ; h) Find $P(2x)$.

Chapter 6 – Factoring and Applications

- **Homework #3 & 4** – Chapter 6 – All homework problems
- **Handout Chapter 6** – All exercises
- **All examples done in class.**
- **More practice :**

1) Solve each equation by factoring:

a) $x^2 - 9 = 0$ b) $x^2 - 6x - 7 = 0$ c) $y^2 + 2y = 0$
 d) $-20x^2 + 6 = -7x$ e) $x^3 + 4x^2 + 3x = 0$ f) $3x^2 - 21x = -30$
 g) $10x^2 + 43x = 9$ h) $(2x + 3)(3x - 5) = -10$
 j) $(3x - 5)(4x + 1) = 24$ l) $(3x + 1)^2 - 9x^2 = 31$

Chapter 7 – Rational expressions

- **Homework #4** – Chapter 7 – All homework problems.
- **All examples done in class.**
- **Handout Section 7.8**
- **More practice: odd exercises from the textbook**