

The best way to study for this test is by practicing! Be able to do *all the problems* that were on your homeworks and notes that were given during this unit. Be able to recognize a monomial (check your notes!) Below are additional practice problems. Remember, there will be a couple review problems on the test.

Simplifying Polynomials - Practice Problems for the Test. Simplify completely:

A. $\frac{12x^2y^3z^6}{4x^{-1}y^7z^{-8}}$

$\frac{3x^3z^{14}}{y^4}$

B. $\frac{(5)^5}{(5)^2}$

5^3

C. $(x^2y)^{-3}(xy)^4$

$x^{-6}y^{-3}x^4y^4$
 $= \frac{y}{x^2}$

D. $(-3x^2)^4$

$81x^8$

E. $(-3x)^{-1}$
 $\frac{1}{-3x}$

F. $3x^{-1}$
 $\frac{3}{x}$

G. $\left(\sqrt{\frac{x^2-7x+9}{2}}\right)^0$
 1

H. $(2a)^{-3}(2a)^{14}$
 $\frac{1}{2^3a^3} \cdot 2^{14}a^{14}$
 $= 2^{11} \cdot a^{11}$

I. $(x^3-3x^2-4x)-(x^2-10x+7)$
 $x^3 - 4x^2 + 6x - 7$

J. $(x^3-3x^2-4x)(x^2-10x)$
 $x^5 - 10x^4$
 $-3x^4 + 30x^3$
 $-4x^3 + 40x$

 $x^5 - 13x^4 + 26x^3 + 40x$

K. $(x^2-10x)^2$
 $(x^2-10x)(x^2-10x)$
 $= x^4 - 20x^3 + 100x^2$

L. $xyz - 2xyz + 3xy + 4xy - 5yz$
 $-xyz + 7xy - 5yz$

M. $(xyz)(2xyz)(3xy)(4xy)(5yz)$
 $120x^4y^5z^3$

N. $(xy)(2xyz) - (3xy)(4xyz)$
 $2x^2y^2z - 12x^2y^2z$
 $= -10x^2y^2z$

O. $\frac{3x-7}{7}$ ← may keep this
 $= \frac{3x}{7} - 1$ ← OR

P. $\frac{(3x)(-7)}{7}$
 $-3x$

Q. $(-2)^4$
 16

R. $(-2)^{-4}$
 $\frac{1}{16}$

Find the degree of:

S. x^3y^3
 6

Degree of a polynomial is the biggest degree of each of the monomials

T. $x^3y^3 + xy^5 - x^4y^5$
 9

U. $3a^2bc^5 - 9a^3bc^6 + 12a^2b^3c^6$
 11