

MATH-125 TEST 5

sample

100 points

NAME: \_\_\_\_\_

All answers should be simplified completely and have only positive exponents.

FILL IN THE BLANKS WITH THE MOST APPROPRIATE ANSWER. ( 2 POINTS EACH )

(1)  $5^0 =$  \_\_\_\_\_

(8)  $\left(\frac{3}{4}\right)^{-2} =$  \_\_\_\_\_

(2)  $\frac{m^4}{m^{11}} =$  \_\_\_\_\_

(9)  $5^{-2} =$  \_\_\_\_\_

(3)  $\frac{y^6}{y^3} =$  \_\_\_\_\_

(10)  $(-4a^2b^8)^3 =$  \_\_\_\_\_

(4)  $(-5)^2 =$  \_\_\_\_\_

(11)  $-5^2 =$  \_\_\_\_\_

(5)  $9x^{-3} =$  \_\_\_\_\_

(12)  $\frac{p^{-9}}{p^{-3}} =$  \_\_\_\_\_

(6)  $(2z^5)(3z^5) =$  \_\_\_\_\_

(13)  $\frac{-7ab^{-4}}{c^{-1}} =$  \_\_\_\_\_

(7)  $2z^5 + 3z^5 =$  \_\_\_\_\_

(14)  $4^{-1} + 10^{-1} =$  \_\_\_\_\_

(15) Simplify ( 4 points each )

(a)  $(7p^{-3}q^7)(8p^4q^9)$

(b)  $\frac{12m^8n^{-7}}{18m^{-3}n^{-1}}$

(c)  $\left(\frac{-3x^3y^{-8}}{z^2}\right)^2$

(16) Simplify ( 3 points each)

(a)  $(12x^2 + 3x - 7) - (5x^2 + 4x + 1)$

(b)  $5x^4y^5 - 3x^2y^3 + 7x^4y^5 + 11x^2y^3$

(17) Multiply

( 4 points each)

(a)  $(3x - 5)(3x + 5)$

(c)  $(4x - 3)^2$

(e)  $x(2x + 4)(x + 3)$

(b)  $(6x - 3)\left(\frac{2}{3}x + 5\right)$

(d)  $(x + 4)(3x^2 + 2x - 5)$

(f)  $(4a - 7)(3a + 1)$

(18) DIVIDE: ( 5 points each )

(a)  $\frac{16x^8 - 8x^6 + 12x^3}{4x^3}$

(b)  $(4y^3 - 4y^2 + 5y - 8) \div (2y - 1)$

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(19) Find the value of the polynomial  $7x^2 + 3x - 1$  when

(2 points each)

(a)  $x = 1$

(b)  $x = -12$

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(20) Simplify

(4 points each)

a)  $(-4g^{-2}z^8)^3(4g^9z^{-1}) = \underline{\hspace{2cm}}$

b)  $\left(\frac{8x^9y^{-3}}{4x^{-3}y^2}\right)^{-3} = \underline{\hspace{2cm}}$

c)  $\frac{(2a^3b^6)^2}{(2a^5b)^6} = \underline{\hspace{2cm}}$

d)  $\frac{(3y^3z^2)^2(4yz^{-3})^{-2}}{(y^5z^{-1})^3} = \underline{\hspace{2cm}}$