

MPC 095 C: Practice Test

- 1) Multiply:  $(3x^2 - 2x + 8)(5x^2 - 8x + 8)$
- 2) Divide the following and express your answer in appropriate scientific notation:  $\frac{4.32 \times 10^{89}}{1.6 \times 10^{42}}$
- 3) Multiply the following and express your answer in appropriate scientific notation:  
 $(3.8 \times 10^{39}) \times (7.3 \times 10^{-5})$
- 4) Simplify:  $(3y - 2)^2$
- 5) Multiply:  $(y + 6)(y - 6)$
- 6) Divide:  $\frac{-6x^5 + 6x^3 - 9x^2}{3x^2}$
- 7) Simplify  $(6y^2 - 36y + 29) - (-6y^2 - 6y + 2) + (-7y^2 + 15y - 14)$
- 8) Multiply:  $(6x + 1)(6x - 1)$
- 9) Simplify:  $\frac{a^7 b \cdot a^6 b^4}{(a^4 b^5)^2}$
- 10) Divide:  $\frac{x^3 - 2x^2 - 77}{x - 5}$
- 11) Multiply:  $6(4t + 7)(t - 4)$
- 12) Evaluate:  $7x^3 + 6x^2 - 5x - 3$  at  $x = 2$
- 13) Divide:  $\frac{x^3 - 5x^2 + 7x - 15}{x - 4}$

14) Multiply:  $(2x - 4)(4x + 1)$

15) Multiply the following and express your answer in appropriate scientific notation:  
 $(5.7 \times 10^{39}) \times (1.7 \times 10^{32})$

16) Multiply:  $(v - 5)(4v - 1)$

17) Simplify:  $\frac{(x^4y^3)^5(xy^5)^{-3}}{x^4y^4}$

18) Multiply:  $3(4x + 5)(x - 3)$

19) Multiply:  $(3x + 3)(4x^2 - 3x - 1)$

20) Divide:  $\frac{x^4 - 6x^3 + 6}{x - 1}$

21) Simplify  $(3a^4b^5c^5)^2(2a^3b^3c^5)^3$

22) Simplify:  $\left(\frac{4x^{-8}y^{-4}}{12x^5y^{-6}}\right)^{-2}$

23) Multiply:  $(3x + 4)^2$

24) Divide the following and express your answer in appropriate scientific notation:  $\frac{1.518 \times 10^{38}}{4.6 \times 10^{33}}$

25) Divide:  $\frac{44y^{15} - 44y^{11} + 44y^5}{11y^3}$

26) Multiply:  $5x^4y^3(6x^2 - 2xy - 4y^2)$

27) Divide:  $\frac{-8x^3+16x^2+14x+2}{4x+2}$

28) Subtract:  $(-3x^2 - 10x + 11) - (-6x^3 + 3x^2 - 3x)$

29) Multiply:  $3x^2y^4(2x^2 + 5xy - 4y^2)$

30) Evaluate:  $7x^3 + x^2 - 7x - 4$  at  $x = -2$