

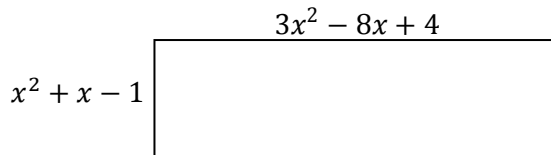
Name _____

Date _____

Homework #4 Show all Work!

Period _____

1) A rectangle has a length of $3x^2 - 8x + 4$ and a width of $x^2 + x - 1$. What is the perimeter of the rectangle?



2) Determine the property for each of the following expression. Write C for the Commutative property, A for the Associative property or D for the Distributive.

- | | |
|------------------------------------------------|----------|
| a) $5 + 1 + 7 = 1 + 5 + 7$ | a) _____ |
| b) $(wx)yz = w(xy)z$ | b) _____ |
| c) $q(3 - p) = 3q - pq$ | c) _____ |
| d) $(5)(7) = (7)(5)$ | d) _____ |
| e) $(zm + xy) + ap + ab = zm + (xy + ap) + ab$ | e) _____ |
| f) $((a + b) + c) = (a + (b + c))$ | f) _____ |
| g) $3 + (5 + 2) = (3 + 5) + 2$ | g) _____ |
| h) $(x + y)(a + 5) = (x + y)a + (x + y)5$ | h) _____ |
| i) $((a + b) + c) = (c + (a + b))$ | i) _____ |
| j) $(6 - x)(3) = 18 - 3x$ | j) _____ |

3) Which property can be used to justify that, $x^2 + 4x + x^3 + 5x^2 - 6x = x^3 + x^2 + 5x^2 + 4x - 6x$?

- (1) Associative Property
- (2) Distributive Property
- (3) Substitution Property
- (4) Commutative Property

**Explain _____

4) Simplify: $-3x(4x^2 + 2x) - 3x^2(x^3 + 2x - 3) - (x^2 + 5x - 1)$

5) Simplify: $-5x^2(3x^2 - 4x - 6) - 2x(x^3 - 2x^2 + 10) - 4(-2x^2 + 3x - 5)$

6) Simplify: $2x(5x^2 - 7x^3) - 3x^2(-2x^2 - 4x^3 - 5x) - 5x^3(10x + 9x^2)$

7) Simplify: $-3x^4(3x^3 + 4x - 6) - 7x(2x^4 - x + 1)$

8) The equation $8(100 \cdot 5) = (100 \cdot 5)8$ is an example of which property?

- (1) associative
- (2) distributive
- (3) commutative
- (4) closure

10) The equation $*(\Delta + \heartsuit) = *\Delta + *\heartsuit$ is an example of the

- (1) associative law
- (2) distributive law
- (3) commutative law
- (4) transitive law

9) Which property is illustrated by the equation $4x(2x - 1) = 8x^2 - 4x$?

- (1) associative
- (2) commutative
- (3) distributive
- (4) identity

11) Which equation illustrates the associative property?

- (1) $a(1) = a$
- (2) $a + b = b + a$
- (3) $a(b + c) = (ab) + (ac)$
- (4) $(a + b) + c = a + (b + c)$