MPM1D Name: _____

Polynomials Review Assignment

1. Fill in the following information for each polynomial.

	$3 - a^2 + 2a^2b$	$x^2y - y^2 + 4y$	$a^2b - b$	$3s^4t^3$
Coefficients:				
Variables:				
# of Terms:				
Name:				
Degree of Each Term:				
Degree of Polynomial:				

2. Which expression represents the result of simplifying $(4x - 1) - (x + 1)$? (multiple choice)

A) $5x + 2$ **B)** $3x - 2$ **C)** $5x$ **D)** $3x$

3. Remove brackets and collect like terms. Then, simplify.

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

b) $(2y - 5) + (y + 9)$

c) $(3v - 2) + (6 - v)$

d) $(k + 4) + (2 - 3k) + (6k - 1)$

MPM1D Name: _____

4. Simplify

a) $(6k - 4) + (2k + 4)$

b) $(b - 6) - (2 - 5b) + (b + 4)$

c) $(x + 2) - (1 - x) - (5 + x)$

d) $(g + 12) + (g - 7) - (2 - 3g)$

e) $(1 - b) + (3 + 2b) - (b - 8)$

f) $(x^2 + 2x + 1) + (2x^2 + 4)$

MPM1D Name: _____

5. Simplify the following to a single power. Then evaluate.

a) $\left(-\frac{3}{7}\right)^6 \div \left(-\frac{3}{7}\right)^3$

b) $\frac{0.2^4 \times 0.2^3 \div 0.2^2}{(0.2^2)^2}$

6. Simplify using the exponent laws, then evaluate the expression.

a) $\left[\left(\frac{1}{3}\right)^3\right]^3$

b) $[(-3)^4]^2 \times (-3)^5 \div [(-3)^2]^5$

7. Simplify.

a) $(-x^3)^5(4x^2)^2$

b) $\frac{10g^4h^5 \times (3g^3h^2)^2}{(4gh^2)^2 \times 3g^3h^2}$ *challenge question

MPM1D Name: _____

8. Expand by distribution.

a) $3(g + 4)$ **b)** $-4(-w - 5)$ **c)** $r(3r + 5)$

d) $w(4w - 5)$ **e)** $(2q + 5)(6)$ **h)** $(6w - 4)(-3w)$

9. Expand and simplify

a) $2(b + 3) + 5(b + 4)$ b) $-(d - 4) - 4(d + 2)$ c) $5[4s - (s + 2)]$ d) $3[-2(6 - t) + 5t]$

10. Simplify the following expressions.

a) $3(3x^2 - 2x - 1)$

b) $2a(5a - 6)$

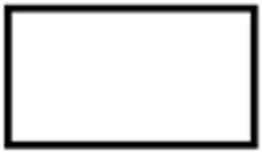
c) $4 + 6(2x - 3)$

d) $-5x - 3x(2x + 5) + x(6x + 2)$

e) $1 + a(3a - 3) - 4a + 2a(2a - 1)$

MPM1D Name: _____

11. A rectangle has length 4x + 1 and width x + 2.
a) Label the diagram.



b) Write a simplified expression for the perimeter of the rectangle.

c) Find the perimeter of the rectangle when x = 5.

12. Three artists contributed to a coffee-table book. They each chose to be paid a different way.

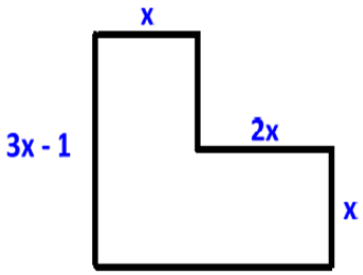
Artist	Fixed Rate ($)	Royalty ($ per *n* books sold)
Ayesha	1000	$2n$
Jorge	–	$5n$
Ioana	4000	–

a) Write an expression for the total earnings for each artist.

b) Write a simplified expression for the total amount paid to Ayesha, Jorge, and Ioana.

MPM1D Name: _____

13. Consider the following composite figure.
a) Find a simplified expression for the **area**.



b) Find a simplified expression for the **perimeter**.

14. A triangle has a perimeter of $9x + 12$. If two of its sides have lengths of $3x + 5$ and $2x – 3$, find the missing side.