MPM 1D Name: _____

Chapter 3 Assignment

1. Simplify each of the following by writing a single base and/or getting rid of all the brackets. DO NOT CALCULATE! [write as a single power]

   a. $9^4 \times 9^5$ _____ b. $5^9 \times 5^2 \times 5$ _____

   c. $3^9 \div 3^3$ _____ d. $7^8 \div 7^4 \div 7^0$ _____

   e. $\left(2^8\right)^2$ _____ f. $8^2 \times 8^4 \div 8^5$ _____

   g. $4^4 \div 4^1 \times 4^5$ _____ h. $4^{10} \div \left(4^3\right)^3 \times 4^0$ _____

   i. $\left(\frac{2}{3}\right)^2 \times \left(\frac{2}{3}\right)^5 \times \left(\frac{2}{3}\right)^7$ _____

   j. $\dfrac{3^{12} \div \left(3^3\right)^3 \times 3}{3^{20} \div \left(3^6\right)^3}$ _____

   k. $\dfrac{\left(4^5 \times 4^4\right)^3}{\left(4^7 \times 4^2\right)^2}$ _____

2. State the number of terms in each of the following.

   a. $12x^2y^4z^{12}$ _____

   b. $13ab + 12cd - 2a^2b^2$ _____

3. Identify each one of the following as a monomial (m), binomial (b) or trinomial (t)

   a. $5a^2b - 8b^2c$ _____

   b. $19 + 7a - 9b$ _____

   c. $24a^3b^4c^2d$ _____

4. Simplify

a. $6x+9y+8y-5x$

b. $12a^2b-9ab^3+16a^2b-4ab^3+8ab^2$

c. $23-5a-17b^2+31+8a-11b^2+13a$

d. $(3y+4)+(5y-9)$

e. $(5y-7)-(4y-8)$

f. $(13y+7y^2)-(12y-3y^2)$

g. $3y(2y-5a^2+6y^2)$

h. $4y^3(3y^2-5ay)$

i. $-3y^2(-6y^5+4y-5a+y^4)$

j. $3a^2(5a^3-2a^2)+3a^3(4a-3a^2)$

k. $\dfrac{2g^2h^3\times(-3g^2h^2)^2}{3gh\times6g^2h^2}$

5. Write a simplified expression for the area of the following rectangle if the length is 4 and the width is 2x+1.

6. Spencer works in a clothing store in the summer. He earns $50 per day and a bonus of $5 for every shirt he sells and a bonus of $8 for every pair of pants he sells. Let x represent the number of shirts he sells and y represent the number of pairs of pants he sells.

   a. Write an expression for how much Spencer could earn in a day.

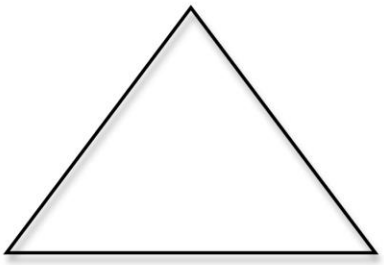
   b. Using your expression, how much would Spencer earn if he sold 8 pairs of pants and 3 shirts in one day?

7. Angelica wrote a quiz. Angelica would receive 5 points for a correct answer and lose 2 points for each incorrect answer.

   a. Using veriables write an expression for a student's score.

   b. If Angelica answered 17 correctly and 3 incorrectly, what would her final score be?

8. If the perimeter of the following triangles is $9x + 2$, determine the length of side (?)



9. Write an expression for each one of the following:

   a. five more than a number _____

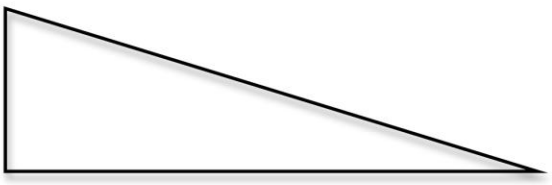
   b. four times a number _____

   c. a number divided by three then decreased by seven _____

   d. half a number _____

   e. five more than twice a number _____

10. Solve the measure of the missing angles if the exterior angle of the top vertice 110 degrees and the bottom left vertice is 90 degrees.



11. A soccer team earns 2 points for a win and 1 point for a tie. Let w represent the number of wins and t represents the number of ties. Write an expression that describes the team's total points.

12. On a multiple-choice test, you earn 1 point for each correct answer and the lose 2 points for each incorrect answer.

    a. Write an expression for a student's total score.

    b. Tim answered 22 questions correctly and 3 incorrectly. Find Tim's score.

13. A women's hockey team gives players a bonus on top of their base salary for every goal and for every assist they score. Data for some of the team's players are given. Each goal receives a bonus of $1000 and each assist receives a bonus of $500.

Player	**Base Salary ($1000s)**	**Goals**	**Assists**
Cruz	80	35	25
Gortan	60	20	18
McKinnon	100	42	30

    a. Write an algebraic expression for the earnings of each of there three players, where g represents the bonus for goals and a represents the bonus for assists.

    b. Find a simplified expression for the **total** earnings for these three players.

    c. Find the total earnings for these three players if g = 200 and a = 100.