Each problem is worth 1 point. Tie Breakers will only count in the event of a tie. Label all answers as appropriate. Enjoy!

1. Mara has 3 times as many dollars as her brother, Timmy. If Mara is given $20 by their mother, she will have 7 times as many dollars as Timmy. How many dollars does Timmy have?

2. In May 1999, two National League baseball players, Joe McEwing of the St.Louis Cardinals and Mike Lieberthal of the Philadelphia Phillies, each had the batting averages, as show below.
   Lieberthal: Bats- 132; Hits- 45; Batting Average- 0.341
   McEwing: Bats- 132; Hits- 45; Batting Average- 0.341
   Suppose McEwing then batted 0.800 (4 hits in 5 at bats), and Lieberthal was perfect (3 hits in 3 at bats). Which player now has the higher batting average?

3. Write 2014 with the first four prime numbers, with the aid of the operations addition, multiplication and exponentiation.

4. A company sells baseball gloves and bats. The gloves regularly cost $30 and the bats regularly cost $90. The gloves are on sale for $4 off, and the bats are on sale for 10% off. The goal is to sell $1200 worth of bats and gloves each week. Last week, the store sold 15 gloves and 10 bats. Did the store meet its goal?

5. The table shows the linear relationship of the water level in a tank and time. What is the rate of change of the water level, in feet per hour.

Time (hr)	Water Level (ft)
0	50
2	40
4	30
6	20

6. In a group of 60 middle school students (grades 6, 7 & 8), 26 are boys, 26 are in grade eight, and 15 are neither 7^{th} nor 8^{th} graders. Of the girls, 9 are in grade seven, and 12 are in grade eight. How many boys in the group are in seventh grade?

7. If 6 cronks = 14 crunks, then 9 cronks = _____crunks.

8. What is the quotient if 20 is divided by 40%?

9. Add the cube and the square of what number to get 80?

10. Sarah walks 60 m to a slide in 180 sec. and slides down 9 times faster than she walks. If it takes 30 sec. to slide down, how long is the slide?

11. If $\frac{2}{3}$ of a number is $\frac{1}{2}$, what is $\frac{1}{6}$ of the number?

12. What is the probability that a randomly chosen positive integer less than 20 will be a multiple of 4?

13. What is the ratio of the number of dimes in \$100 to the number of quarters in \$200?

14. $4^8 \div 8^4$

15. Seqment FG begins at point F (-2,4) and ends at point G (-2,-3). The sequment is translated by (x -3, y + 2) and then reflected across the y axis to form seqment $F'G'$. How many units long is segment $F'G'$?

16. If 6x + 3y = 6 ; and y = -2x + 2 which statement about this linear system must be true?

    a) x must equal 6
    b) y must equal 6
    c) There is no solution to this system.
    d) There are infinitely many solutions to this system.

For questions 17-19 answer

    a) True for all cases
    b) True for some cases
    c) Not true for any cases

17. Two vertical angles form a linear pair.
18. If two angles are supplementary and congruent, then they are right angles
19. The measure of an exterior angle of a triangle is greater than every interior angle of the triangle.

20. In how many different ways can a dozen identical red chips be placed into three separate piles if each pile must end up with at least one chip?

21. $\frac{3}{4} + \frac{7}{12} - (-4)$

22. $2^{100} \times (-2)^{101} \div 2^{202}$

23. A rectangle is drawn on the xy-plane such that one of its diagonals has endpoints at (2,6) and at (14,1). If a third vertex of the rectangle is at (x,6) what is the value of x?

24. The sum of ages of 5 children born at the intervals of 3 years each is 50 years. What is the age of the youngest child?

25. A father said to his son, "I was as old as you are at the present at the time of your birth". If the father's age is 38 years now, how old was the son 5 years ago?

Tie Breakers:

1. Superman and Batman are balanced at opposite ends of a seesaw. Superman weighs 220 pounds and is 9 feet from the fulcrum. If Batman is 12 feet from the fulcrum, how many pounds does Batman weigh?

2. 450 students are surveyed as they enter the cafeteria about which subjects they liked. Every other student liked math, every third student liked English and every fifth student liked art. How many students did not like math nor art nor English?

3. Two opposite sides of a square are increased by 25% and the other two are decreased by 40%. What is the percent decrease in the area of the resulting rectangle?