1. Lilly’s “Ideal Lemonade” is a 60% mixture of lemonade and water. She currently has 40 gallons of an 80% mixture of lemonade and water. How much water should she add to create her ideal lemonade?
   1. 20 B. 13 1/3 C. 10 D. 32
2. Todd flew 100km in 10 min. He flew the first 5 minutes at full speed and the second 5 minutes at half speed. What is the full speed of the plane in Km/hr?
   1. 13 1/3 B. 400 C. 6 2/3 D. 800
3. Four goats eat 8 tin cans in one hour. How long should it take 8 goats to eat 4 tin cans?
   1. 15 min B. 20 min C. 10 min D. 30 min
4. Solve
   1. B.

C. D.

1. Ragan lives 20 miles east of the school and can travel on her bicycle at a constant rate of 10 miles per hour. Alex lives 10 miles west of the school and can jog at a constant rate of 5 miles per hour. They agree to meet at the school. If a trained fly travels at a constant rate of 15 mile per hour and flies from Ragan to Alex and back and forth until they meet at the school, how far will the fly have flown?
   1. 30 miles B. 30.25 miles C. 15 miles D. 40 miles
2. At what point do these lines intersect: x – y = -3 and 2x + y =12
   1. (3, 6) B. (2, 4) C. (1, -2) D. (3, -6)
3. Simplify: 
   1.  B. 

C.  D. 

1. Simplify: 
   1.  B. 7ay2 C. 4ax2y4 – 3y8 D. 
2. Solve for x: 
   1. {-4, 3} B. {-3, 4} C.  D. ∅
3. Which of the following is the equation of a line passing through point (4, -5) and perpendicular to the line determined by the equation 4x - y = 7
   1. x + 4y = -16 B. 4x + y = 16 C. x - 4y = 16 D. -4x + y= -16
4. The area of the blue square is 4. The perimeter of the orange square is three times the perimeter of the blue square. The area of the orange square is
   1. 16 B. 144 C. 36 D. 24
5. Eight minutes after my Math class was half over, three-eighths of the class period remained. How long in minutes is My Math class?
   1. 60 min B. 64 min C. 24 min D. 32 min
6. If x + y = 2.5 and x – y= 1.5 then x2- y2 - yx=
   1. 4 B. 1 C. 3.5 D. 6.25
7. Which of the following expressions is equivalent to ?

A.  B.  C.  D. 

1. Evaluate 

A.  B.  C.  D. 

1. Solve:

A.  B.  C.  D. 

1. Find the product of the slope and the y-intercept of 4x – 5y = 20
   1. -20 B. 3.2 C. -3.2 D. 20
2. Eli walks x yards north, then walk (2x - 1) yards west. He is now (2x + 1) yards from his starting point. What is the distance, in yards, he travels?
   1. 8 B. 15 C. 23 D. 40
3. Evaluate f(g(3)), given f(x) = 6x2 - 50 and g(x) = 4 - 2x
   1. -26 B. 74 C. 8 D. -4
4. Will practices baseball every three days, Caleb practices every six days and Carson practices every five days. If they practice together on Saturday, the next day they will all practice together will be on a
   1. Sunday B. Monday C. Wednesday D. Thursday
5. 1. B. C. D.
6. Find *f*(2) if 
   1. 11 B. 16 C. 3 D. 64
7. Find the sum: log28 + log416+ log88 + log864 + log232
   1. 128 B. 16 C. 60 D. 24
8. Find the product of
   1. B.

C. D.

1. is an element of what set of numbers
   1. Irrational B. Natural C. Integer D. Real

TB1 What is the sum of the interior angles of an isosceles right triangle?

TB2 In 32546, the digit 2 represents what number?

TB3 Let *i* = . What is ?