Applied Technology High School

SAT I	**2012 / 2013**

Question booklet # 9

Grade	**12**
Cluster	**Core**
Subject	**Mathematics**

Student Name			
Student Number		**Section**	

Coverage	➢ *SAT I, basic reasoning questions.*

1) If $\frac{12}{4} = x$, what is the value of $4x + 2$?
   A) 2
   B) 3
   C) 4
   D) 12
   E) 14

2) In the coordinate plane, what is the midpoint of the line segment with endpoints at (3, 4) and (0, 0)?
   A) (1.5 , 2)
   B) (5 , 0)
   C) (2.5 , 0)
   D) (3.5 , 3.5)
   E) (1.75 , 1.75)

3) $x\sqrt{4}$ - $x\sqrt{9}$ =
   A)   -5x
   B)   - $x\sqrt{5}$
   C)   –x
   D)   X
   E)   3x

4) If n is an even integer, which of the following must be an odd integer?
   A)   3n – 2
   B)   3(n+1)
   C)   n-2
   D) $\frac{n}{3}$
   E) n^2

5) If b equals 40 % of a, then in terms of b, 40 % of 4a is equal to which of the following?
   A) $\frac{b}{40}$
   B) $\frac{b}{4}$
   C)   B
   D)   4b
   E)   16b

6) If the circle with center O has a diameter of 9, then what is the area of the circle with center O?
   A)   81 π
   B) $\frac{9}{2}$ π
   C) $\frac{81}{4}$ π
   D)   18π
   E)   9 π

7) If a^b = 4, and 3b = 2, what is the value of a?
   A)   16
   B)   64
   C)   8
   D)   2
   E)   4

8) If f(x) = x^2 + 2 , which of the following Could be a value of f(x)?
   A)   -2
   B)   -1
   C)   0
   D)   1
   E)   2

9) If $\frac{x^2+x-6}{x^2-8x+12}$= 4, what is the value of x?
   A)   3
   B)   6
   C)   9
   D)   12
   E)   15

10) If $c = \frac{1}{x} + \frac{1}{y}$ and $x > y > 0$, then which of the following is equal to $\frac{1}{c}$?

    A) $x + y$

    B) $x - y$

    C) $\frac{x+y}{xy}$

    D) $\frac{xy}{x+y}$

    E) $\frac{1}{x} + \frac{1}{y}$

11) The average of Mariam's scores on 3 tests is 85 . If she scored 90 on both of the first two tests ,what was her score on the third test ?

    A)   70

    B)   45

    C)   80

    D)   85

    E)   90

12) If $4(x + 3) = 15$, then what is the value of $4x + 3$?

    A)   0.75

    B)   1.50

    C)   6.00

    D)   10.00

    E)   15.00

13) In a road race , a $4,000 prize is split among the first three finishers in the ratio of 5 : 2 : 1 . What is the greatest amount in dollars that any of the three prize winners receives ?

    A)   500

    B)   1000

    C)   1500

    D)   2000

    E)   2500

14) A jar contains marbles that are either red , white or blue .If the ratio of white marbles to the red marbles is 3 to 5 and the ratio of red marbles to blue marbles is 6 to 5 , then what is the least possible number of marbles in the jar?

    A)   18

    B)   25

    C)   63

    D)   73

    E)   80

15) If x is 5 less than y, then what is the value of $5(x - y)$?

    A)   -25

    B)   -5

    C)   0

    D)   5

    E)   25