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SAT Math Level 1

(1) The ratio of the weight of Hailey to that of her friend Michael is 5:8. Michael goes on a diet and loses 8 kg and now the ratio of their weights is 5:6. Michael weighs _____ kg now.

(2) In an arithmetic progression, if the value of the a^{th} term is ***b***, and the value of the b^{th} term is ***a***, then what is the value of the nth term?

a. ***a - b - n*** **b.** ***n - b - a***

c. ***a + b - n*** **d.** ***n + b - n***

(3) Matthew's aunt lives 40 kilometers away from his house. When he wants to visit his aunt, he travels $\frac{3}{8}$ of this distance by train and the rest by bus. So he travels _____ kilometers by bus.

(4) There are two teams of two people each competing in a relay race. The race is for 1km, and each member of a team has to run 500 meters
Christian and Benjamin are in one team, and the Robert twins form the second team.

Christian can run 500 meters in $2\frac{53}{60}$ minutes.

Benjamin can run 500 meters in $2\frac{1}{60}$ minutes.

Each of the Robert twins can run 500 meters in $2\frac{1}{5}$ minutes.

Which pair wins the race and by how much time?

a. Robert twins win the race by 30 seconds **b.** Robert twins win the race by 26 seconds

c. Christian and Benjamin win the race by 30 seconds **d.** Christian and Benjamin win the race by 26 seconds

(5) (100% of \$8) + (8% of \$100) + \$8 = \$ _____

(6) If a cube has surface area S and volume V, then find the volume of the cube of surface area 3S.

a. $\sqrt{3}$V **b.** 3$\sqrt{3}$V

c. 3V **d.** 9V

(7) What is the multiplicative inverse of 324?

(8) A man earned \$330 per month during the first 5 months and \$880 per month during the next 5 months. Find his average monthly earning during this period.

a. \$1386 **b.** \$6930

c. \$1155 **d.** \$630

(9) A natural number, when increased by 10, equals 299 times its reciprocal. Find the number.

a. 9 **b.** 15

c. 13 **d.** 17

(10) The width of the circular track shown in the picture is 3 meters. If the radius of the inner circle is 5 meters, the area of the track = _____ m^2. (assume π = 3 for this question)

(11) Find the sum of the following integers:

(-39322) + (-12800) = _____

(12) Ashley got 40% in her Maths test. If the test was of 10 marks, then how many marks did she get?

(13) If the radius of the wheel of a rickshaw is 25.2 cm. How many revolutions of the wheel are required to travel a distance of 253.44 meters?

(14) If the 20^{th} element of an arithmetic progression is 353 and the difference between the 47^{th} element and the 34^{th} element is 221, then what is the first element of the AP?

a. 13 **b.** 30

c. 47 **d.** 64

(15) Solve the following and reduce to the simplest form:

$$\left(1\frac{1}{2} \div 2\frac{1}{2}\right) + 2\frac{1}{2} = \frac{\square}{\square}$$

Answers

(1) 24

(2) **c.** ***a + b - n***

(3) 25

(4) **a.** Robert twins win the race by 30 seconds

(5) 24

(6) **b.** $3\sqrt{3}V$

(7) $\frac{1}{324}$

(8) **d.** $630

(9) **c.** 13

(10) 117

(11) -52122

(12) 4

(13) 160

(14) **b.** 30

(15) $\left(1\frac{1}{2} \div 2\frac{1}{2}\right) + 2\frac{1}{2} = \frac{31}{10}$