Maximize TSI Math Prep Expert Exam Certification Guide LATEST2024/2025 QUESTIONS AND CORRECT ANSWERS

Question 1: Michaela's Problem Solving Rate

Question: Michaela can finish 3 problems in 10 minutes. How many problems can she complete in 3 hours?

- **Explanation:**

  - Michaela completes 3 problems in 10 minutes. This means she solves $\frac{3}{10}$ problems per minute.

- There are 60 minutes in an hour, so in 1 hour, she can solve $60 \times \frac{3}{10} = 18$ problems.

- In 3 hours, she will solve $18 \times 3 = 54$ problems.

Answer: D (54)

Question 2: Finding the Value of x

Question: If the average of 7 and x is equal to the average of 9, 4, and x, what is the value of x?

- **Explanation:**

- The average of 7 and x is $\frac{7 + x}{2}$.

- The average of 9, 4, and x is $\frac{9 + 4 + x}{3} = \frac{13 + x}{3}$.

- Set these two averages equal:

  $\frac{7 + x}{2} = \frac{13 + x}{3}$.

- Cross-multiply to solve for x:

  $3(7 + x) = 2(13 + x)$,

  $21 + 3x = 26 + 2x$,

  $3x - 2x = 26 - 21$,

  $x = 5$.

Answer: B (x = 5)

Question 3: Probability with a Die

Question: Abram rolls a die with each side labeled 1 to 6. What is the probability he rolls an even number or a number greater than 4?

- **Explanation:**

  - The even numbers on a die are 2, 4, and 6.

- The numbers greater than 4 are 5 and 6.

- The event of rolling an even number or a number greater than 4 includes the numbers 2, 4, 5, and 6. So, there are 4 favorable outcomes: 2, 4, 5, and 6.

- The probability is $\frac{4}{6} = \frac{2}{3}$.

Answer: D (Option C)

Question 4: Discount and Coupon

Question: If an item with an original price of $100 is marked down by 20% and a coupon for 10% off is additionally applied, what is the final price?

- **Explanation:**