

## Exercise Set 2 (Calculator)

12

Let  $m$  be a positive real number. Increasing  $m$  by 60% then decreasing the result by 50% is equivalent to dividing  $m$  by what number?

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What is the sum of the first 50 positive even integers?

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14

Three years ago, Nora was half as old as Mary is now. If Mary is four years older than Nora, how old is Mary now?

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15

If  $\frac{2}{3}$  of the seats at a football stadium were filled at the beginning of the game, and at halftime 1,000 spectators left, leaving  $\frac{3}{7}$  of the seats filled, what is the total number of seats in the stadium?

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If three candy bars and two gumdrops cost \$2.20, and four candy bars and two gumdrops cost \$2.80, what is the cost, in dollars, of one gumdrop?

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If  $\frac{x^2 - 2x + 1}{2 - 2x} = -3$ , what is the value of  $x - 1$ ?

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Subtracting 3 from a number and then multiplying this result by 4 is equivalent to multiplying the original number by 4 and then subtracting what number?

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In a poker game, a blue chip is worth 2 dollars more than a red chip, and a red chip is worth 2 dollars more than a green chip. If 5 green chips are worth  $m$  dollars, then which of the following represents the value, in dollars, of 10 blue chips and 5 red chips?

- A)  $50 + 3m$
- B)  $18 + 60m$
- C)  $40 + 3m$
- D)  $28 + 20m$

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A train travels at an average speed of 50 miles per hour for the first 100 miles of a 200-mile trip, and at an average of 75 miles per hour for final 100 miles. What is the train's average speed for the entire trip?

- A) 58.5 mph
- B) 60.0 mph
- C) 62.5 mph
- D) 63.5 mph

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Which of the following is equivalent to  $3m(m^2 \times 2m)$  for all real values of  $m$ ?

- A)  $3m^2 + 6m$
- B)  $3m^2 \times 6m$
- C)  $3m^3 \times 6m^2$
- D)  $6m^4$

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If the cost of living in a certain city increased by 20% in the 10 years from 1980 to 1990, and increased by 50% in the 20 years from 1980 to 2000, what was the percent increase in the cost of living from 1990 to 2000?

- A) 15%
- B) 20%
- C) 25%
- D) 30%