

4.5 Modeling With Algebra Worksheet #1

MPM1D

Jensen

1. Write an algebraic expression to represent each description.

a) triple a number _____

b) for more than a number _____

c) half a number _____

d) five less than double a number _____

2. Write an equation to represent each sentence.

a) four times a number is 112 _____

b) a perimeter increased by 12 is 56 _____

c) five more than triple a number is 29 _____

d) the sum of two consecutive integers is 63 _____

3. Solve each equation in question 2.

a) _____ b) _____

c) _____ d) _____

4. Estaban is 6 years older than his brother Raoul. The sum of their ages is 38. How old are the brothers?

5. Two friends enter a trivia challenge as a team. Fayth scored 200 more points than Jamal. As a team, they collected a total of 2250 points. How many points did each friend earn?

6. Natalie, Chantal, and Samara play together as a forward line on a hockey team. At the end of the season, Chantal had scored eight more goals than Natalie while Samara had scored twice as many goals as Natalie. The three girls scored a total of 52 goals. How many goals did each girl score?

7. The sum of three consecutive integers is 54. Find the numbers.

8. Paloma works part-time, 4 hours per day, selling fitness club memberships. She is paid \$9/h, plus a \$12 commission for each 1-year membership she sells.

a) Write an algebraic expression that describes Paloma's total earnings.

b) Find the amount Paloma makes in 8 hours when she sells 7 memberships.

c) How many memberships does Paloma need to sell to earn \$600 in a 24 hour work week?

9. The mass of a banana plus its peel is 360g. The mass of the banana is four times the mass of the peel. What is the mass of the peel?

Answers

1) a) $3n$ b) $n + 4$ c) $\frac{1}{2}n$ d) $2n - 5$

2) a) $4n = 112$ b) $p + 12 = 56$ c) $3x + 5 = 29$ d) $x + (x + 1) = 63$

3) a) 28 b) 44 c) 8 d) 31

4) Estaban: 22, Raoul: 16

5) Jamal: 1025, Fayth: 1225

6) Natalie: 11, Samara: 22, Chantal: 19

7) 17, 18, 19

8) a) $E = 9h + 12m$ b) 156 c) 32

9) 72 g