Typeset by Jonathan Rufo Bacolod using LaTeX

Activity 1.7.1: Solving Problems Involving Linear Equations

Total points = 39

Answers

1. Let: $y =$ value V of the equipment, ✓
   $x =$ time t in years ✓
   $y = mx + b$✓
   $V = -40,000t + 200,000$✓
   $V = -40,000(4) + 200,000$✓
   $V = -160,000 + 200,000$✓
   $V = 40,000$✓
2. Let: $x =$ speed of the truck✓
   $x + 5 =$ speed of the car✓
   $4x =$ distance covered by the truck✓
   $4(x + 5) =$ distance covered by the car✓
   $4x + 4(x + 5) = 380$✓
   $4x + 4x + 20 = 380$✓
   $8x + 20 - 20 = 380 - 20$✓
   $\frac{8x}{8} = \frac{360}{8}$✓
   $x = 45$ kph (speed of the truck) ✓
   $x = 50$ kph (speed of the car) ✓
3. Let: $t =$ time of runner running ✓
   $t - 1.5 =$ time of cyclist ✓
   $6t =$ distance covered by runner ✓
   $12(t - 1.5) =$ distance covered by cyclist ✓
   $12(t - 1.5) = 6t$ ✓
   $12t - 18 = 6t$ ✓
   $12t - 6t - 18 + 18 = 6t - 6t + 18$ ✓
   $\frac{6t}{6} = \frac{18}{6}$ ✓
   $t = 3$ hours ✓
4. Let: $y =$ fare, ✓
   $x =$ distance covered minus 4 km ✓
   $y = mx + b$✓
   $y = 2x + 10$✓
   $y = 2(24) + 10$✓
   $y = 48 + 10$✓
   $y =$ ₱58 the cost of a 28-km ride ✓
5. Let: $y =$ amount to save in addition, ✓
   $x =$ number of weeks ✓
   $2,375 = 75x + 500$✓
   $2,375 - 500 = 75x + 500 - 500$✓
   $\frac{1,875}{75} = \frac{75x}{75}$✓
   $x = 25$ number of weeks to save the amount for the shoes✓

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