Year 7 Worksheet 10: Real-life Problem Solving

Question 1: Applying math skills to real-world scenarios.

1	You have a budget of $50 for grocery shopping. If you spend $28 on fruits and vegetables, how much money do you have left for other items?
2	You need to travel from Melbourne to Sydney, which is 878 kilometers away. If you drive at an average speed of 110 kilometers per hour, how long will the journey take?
3	A recipe calls for 2/3 cup of sugar, but you want to make a smaller batch using only 1/4 of the original recipe. How much sugar do you need for the smaller batch?
4	If you receive $5 of pocket money every week, how much money will you have saved in 3 months?

5	You are planning a school trip, and the total cost for each student is $150. If there are 35 students going on the trip, what is the total cost for the entire group?
6	You want to paint the walls of a room that measures 4 meters in length, 3 meters in width, and 2.5 meters in height. If one liter of paint covers 8 square meters, how many liters of paint do you need?
7	You are baking cookies, and the recipe requires 3/4 cup of chocolate chips. If you want to make twice the number of cookies, how many cups of chocolate chips do you need?
8	You want to save $1,000 by the end of the year. If you start in January, how much money should you save each month to reach your goal?

9	If you walk 1.5 kilometers to school every day, how many kilometers do you walk in a week (assuming a 5-day school week)?
10	You earn $10 for every hour of work, and you worked for 15 hours during the week. How much money did you earn?

Question 2: Answer the following.

1	You are hosting a pizza party for your friends. Each pizza costs $12, and you want to order enough for 8 people. How many pizzas should you order, and how much will it cost in total?
2	You need to build a fence around a rectangular garden that measures 6 meters in length and 4 meters in width. If each meter of fencing costs $5, how much will the entire fence cost?
3	Your family is planning a road trip, and the distance to your destination is 450 kilometers. If your car's fuel efficiency is 15 kilometers per liter, how many liters of fuel will you need for the trip?
4	You have a recipe that serves 4 people, but you need to cook for 12 people. How do you adjust the quantities of ingredients in the recipe, and what are the new measurements?

5	You want to save $500 in 6 months. How much money should you set aside each month to reach your savings goal?
6	You want to buy a bike that costs $350, but you currently have $200 saved. How much more money do you need to save to afford the bike?
7	You are baking cookies for a bake sale. A batch of cookies yields 24 cookies, and you want to bake enough for 60 cookies. How many batches do you need to make?
8	You are planning a birthday party and need to buy balloons. Each pack of balloons contains 20 balloons, and you want to have 100 balloons at the party. How many packs of balloons should you buy?

9	You walk 1.5 kilometers to school and 1.5 kilometers back home every day. How many kilometers do you walk in a school week (assuming a 5-day school week)?
10	You earn $10 for every hour of work, and you worked for 15 hours during the week. Your employer also gave you a $20 bonus. How much money did you earn in total?

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Answer Key

Question 1: Applying math skills to real-world scenarios.

1	You have a budget of $50 for grocery shopping. If you spend $28 on fruits and vegetables, how much money do you have left for other items? Answer: $50 - $28 = $22 left for other items. You have $22 left for other items.
2	You need to travel from Melbourne to Sydney, which is 878 kilometers away. If you drive at an average speed of 110 kilometers per hour, how long will the journey take? Answer: Time = 878 km / 110 km/h = 7.98 hours The journey will take approximately 7.98 hours (or 7 hours and 59 minutes).
3	A recipe calls for 2/3 cup of sugar, but you want to make a smaller batch using only 1/4 of the original recipe. How much sugar do you need for the smaller batch? Answer: Sugar needed = (1/4) * (2/3) = 2/12 = 1/6 cup of sugar. You need 1/6 cup of sugar for the smaller batch.
4	If you receive $5 of pocket money every week, how much money will you have saved in 3 months? Answer: $5/week * 4 weeks/month * 3 months = $60. You will have saved $60 in 3 months.
5	You are planning a school trip, and the total cost for each student is $150. If there are 35 students going on the trip, what is the total cost for the entire group? Answer: Total cost = $150/student * 35 students = $5,250. The total cost for the entire group is $5,250.

6	You want to paint the walls of a room that measures 4 meters in length, 3 meters in width, and 2.5 meters in height. If one liter of paint covers 8 square meters, how many liters of paint do you need? Answer: Total surface area = 2 * (4 m * 2.5 m + 3 m * 2.5 m) = 2 * (10 m^2 + 7.5 m^2) = 2 * 17.5 m^2 = 35 m^2. Now, since one liter of paint covers 8 square meters, you'll need: Paint needed = 35 / 8 = 4.375 liters
7	You are baking cookies, and the recipe requires 3/4 cup of chocolate chips. If you want to make twice the number of cookies, how many cups of chocolate chips do you need? Answer: Chocolate chips needed = (3/4) cup * 2 = 1.5 cups of chocolate chips. You need 1.5 cups of chocolate chips.
8	You want to save $1,000 by the end of the year. If you start in January, how much money should you save each month to reach your goal? Answer: Monthly savings = $1,000 / 12 months ≈ $83.33 per month. You should save $83.33 each month.
9	If you walk 1.5 kilometers to school every day, how many kilometers do you walk in a week (assuming a 5-day school week)? Answer: Weekly distance = 1.5 km/day * 5 days/week = 7.5 kilometers/week. You walk 7.5 kilometers in a week.
10	You earn $10 for every hour of work, and you worked for 15 hours during the week. How much money did you earn? Answer: Total earnings = $10/hour * 15 hours = $150. You earned $150 during the week.

Question 2: Answer the following.

1	You are hosting a pizza party for your friends. Each pizza costs $12, and you want to order enough for 8 people. How many pizzas should you order, and how much will it cost in total? Answer: You should order 2 pizzas, and it will cost $24 in total.
2	You need to build a fence around a rectangular garden that measures 6 meters in length and 4 meters in width. If each meter of fencing costs $5, how much will the entire fence cost? Answer: Perimeter = 2 * (6 meters + 4 meters) = 2 * 10 meters = 20 meters. Total fence cost = 20 meters * $5/meter = $100.
3	Your family is planning a road trip, and the distance to your destination is 450 kilometers. If your car's fuel efficiency is 15 kilometers per liter, how many liters of fuel will you need for the trip? Answer: Liters of fuel needed = 450 km / 15 km/liter = 30 liters of fuel. You will need 30 liters of fuel for the trip.
4	You have a recipe that serves 4 people, but you need to cook for 12 people. How do you adjust the quantities of ingredients in the recipe, and what are the new measurements? Answer: New quantity of flour = 1 cup * 3 servings = 3 cups of flour. You should triple the quantities of all ingredients in the recipe.
5	You want to save $500 in 6 months. How much money should you set aside each month to reach your savings goal? Answer: Monthly savings = $500 / 6 months ≈ $83.33 per month. You should set aside approximately $83.33 each month.
6	You want to buy a bike that costs $350, but you currently have $200 saved. How much more money do you need to save to afford the bike?

	Answer: Additional savings needed = $350 - $200 = $150. You need to save an additional $150.
7	You are baking cookies for a bake sale. A batch of cookies yields 24 cookies, and you want to bake enough for 60 cookies. How many batches do you need to make? Answer: Number of batches = 60 cookies / 24 cookies per batch ≈ 2.5 batches. You need to make 3 batches of cookies.
8	You are planning a birthday party and need to buy balloons. Each pack of balloons contains 20 balloons, and you want to have 100 balloons at the party. How many packs of balloons should you buy? Answer: Number of packs of balloons = 100 balloons / 20 balloons per pack = 5 packs of balloons. You should buy 5 packs of balloons.
9	You walk 1.5 kilometers to school and 1.5 kilometers back home every day. How many kilometers do you walk in a school week (assuming a 5-day school week)? Answer: Weekly distance = (1.5 km + 1.5 km) * 5 days/week = 15 kilometers/week. You walk 15 kilometers in a school week.
10	You earn $10 for every hour of work, and you worked for 15 hours during the week. Your employer also gave you a $20 bonus. How much money did you earn in total? Answer: Total earnings = ($10/hour * 15 hours) + $20 = $150 + $20 = $170. You earned $170 in total.