Year 7 Worksheet 1: Numbers and Operations

Question 1: Place value and decimals.

1	Write 7.356 in expanded form.
2	If you multiply 4.2 by 5, what is the result?
3	Round 6.879 to the nearest tenth.
4	Convert the fraction 3/5 into a decimal.
5	Calculate 6.2 × 3.5.

6	A bookshelf has 7 shelves, and each shelf can hold 15.25 books. How many books can the bookshelf hold in total?
7	A bakery sold 3.25 dozen donuts in the morning and 2.5 dozen in the afternoon. How many dozen donuts did they sell in total?
8	If a smartphone costs $289.99 and you have a $50 discount, how much will you pay after the discount?
9	Sarah has $36.45, and John has $28.60. How much money do they have together?
10	If a recipe calls for 1/3 cup of sugar, and you want to make 4 batches, how much sugar do you need in total?

Question 2: Operations of whole numbers and decimals.

1	A store offers a 15% discount on an item priced at $75. If you also have a $10 coupon, what is the final price you will pay for the item?
2	If you order 3.75 kilograms of fruit and each fruit bag contains 0.25 kilograms, how many bags do you need?
3	A rectangular field is 15.7 meters long and 8.2 meters wide. What is the perimeter of the field?
4	A rectangular garden measures 7.82 meters in length and 4.36 meters in width. What is the area of the garden in square meters?

5	A swimming pool is 25.5 meters long, 12.7 meters wide, and 3.2 meters deep. How many liters of water does it hold? If 1m³ = 1000L.
6	If a car travels at a constant speed of 98.6 km/h, how long does it take to travel 250 kilometers?
7	A car travels at an average speed of 65.5 km/h for 2.5 hours. How far does it travel?
8	Subtract 9.85 from 15.4, then divide the result by 2.

9	If you have 4.75 liters of juice and want to distribute it equally into 5 glasses, how much juice will each glass have in mL?
10	A recipe calls for 2.75 cups of flour, but you only have a 1/4 cup measuring cup. How many times must you fill the measuring cup to get the required amount of flour?

Question 3: Order of operations (BODMAS/BIDMAS).

1	Evaluate the expression: 5 + 3 × (4 - 2).
2	Calculate: (6 - 2)² + 3 × 5.
3	Simplify: 2 × (3 + 7) - 4 ÷ 2.
4	Evaluate: 10 ÷ (2 + 3) × 4 - 1.
5	Calculate: 8 - (3 + 2)² ÷ 5.
6	Simplify: 4 + 3 × (8 - 6)².

7	Evaluate: 12 ÷ (6 - 4) + 5 × 2.
8	Calculate: 7 - (2 × 3 + 4)².
9	Simplify: 9 + 2 × (5 - 3)² - 6.
10	Evaluate: 16 ÷ (4 - 2) × (3 - 1).

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Answer Key

Question 1: Answer the following.

1	Write 7.356 in expanded form. Answer: 7 + 0.3 + 0.05 + 0.006.
2	If you multiply 4.2 by 5, what is the result? Answer: The result is 21.
3	Round 6.879 to the nearest tenth. Answer: Rounded to the nearest tenth, it's 6.9.
4	Convert the fraction 3/5 into a decimal. Answer: 3/5 is equal to 0.6 in decimal form.
5	Calculate 6.2 × 3.5. Answer: The product is 21.7.
6	A bookshelf has 7 shelves, and each shelf can hold 15.25 books. How many books can the bookshelf hold in total? Answer: The bookshelf can hold 106.75 books in total.
7	A bakery sold 3.25 dozen donuts in the morning and 2.5 dozen in the afternoon. How many dozen donuts did they sell in total? Answer: They sold 5.75 dozen donuts in total.
8	If a smartphone costs $289.99 and you have a $50 discount, how much will you pay after the discount? Answer: You will pay $239.99.
9	Sarah has $36.45, and John has $28.60. How much money do they have together?

	Answer: They have $65.05 together.
10	If a recipe calls for 1/3 cup of sugar, and you want to make 4 batches, how much sugar do you need in total? Answer: You need 1.33 cups of sugar in total.

Question 2: Answer the following.

1	A store offers a 15% discount on an item priced at $75. If you also have a $10 coupon, what is the final price you will pay for the item? Answer: The final price is $53.75.
2	If you order 3.75 kilograms of fruit and each fruit bag contains 0.25 kilograms, how many bags do you need? Answer: You need 15 bags.
3	A rectangular field is 15.7 meters long and 8.2 meters wide. What is the perimeter of the field? Answer: The perimeter is 47.8 meters.
4	A rectangular garden measures 7.82 meters in length and 4.36 meters in width. What is the area of the garden in square meters? Answer: The area is 34.0992 square meters.
5	A swimming pool is 25.5 meters long, 12.7 meters wide, and 3.2 meters deep. How many liters of water does it hold? If 1m³ = 1000L. Answer: The pool holds 1,036,320 liters of water.
6	If a car travels at a constant speed of 98.6 km/h, how long does it take to travel 250 kilometers? Answer: It takes approximately 2.54 hours.

7	A car travels at an average speed of 65.5 km/h for 2.5 hours. How far does it travel? Answer: It travels 163.75 kilometers.
8	Subtract 9.85 from 15.4, then divide the result by 2. Answer: The result is (15.4 - 9.85) ÷ 2 = 2.775.
9	If you have 4.75 liters of juice and want to distribute it equally into 5 glasses, how much juice will each glass have in mL? Answer: Each glass will have 0.95 liters of juice = 95mL
10	A recipe calls for 2.75 cups of flour, but you only have a 1/4 cup measuring cup. How many times must you fill the measuring cup to get the required amount of flour? Answer: You need to fill the measuring cup 11 times.

Question 3: Answer the following.

1	Evaluate the expression: 5 + 3 × (4 - 2). Answer: The expression simplifies to 11.
2	Calculate: (6 - 2)² + 3 × 5. Answer: The expression simplifies to 31.
3	Simplify: 2 × (3 + 7) - 4 ÷ 2. Answer: The expression simplifies to 18.
4	Evaluate: 10 ÷ (2 + 3) × 4 - 1. Answer: The expression simplifies to 7.
5	Calculate: 8 - (3 + 2)² ÷ 5. Answer: The expression simplifies to 3.

6	Simplify: 4 + 3 × (8 - 6)².
	Answer: The expression simplifies to 16.
7	Evaluate: 12 ÷ (6 - 4) + 5 × 2.
	Answer: The expression simplifies to 16.
8	Calculate: 7 - (2 × 3 + 4)².
	Answer: The expression simplifies to -93.
9	Simplify: 9 + 2 × (5 - 3)² - 6.
	Answer: The expression simplifies to 11.
10	Evaluate: 16 ÷ (4 - 2) × (3 - 1).
	Answer: The expression simplifies to 16.