THIRD SPACE LEARNING

Word Problems

11 number and base 10 questions to develop reasoning and problem solving skills

Grade 5

Questions

Name: .... Date: ....

1 A spaceship is traveling between planets A, B, C and D.
The distances between the planets are shown below.

Journey	Distance (km)	Order
A - B	9,001.343	
A - C	9,246.145	
A - D	8,156.254	
B - C	9,961.040	
B - D	9,061.211	
C - D	8,179.101	

Order the distances from shortest to longest.

2 A kitten weighs 1,500 grams and an adult giraffe weighs 1,500,000 grams.
Complete the statement.

The adult giraffe is [ ] times larger than the kitten.

3 Demi feeds her cat 9.5 ounces of cat food each day. How many ounces will Demi feed her cat over 14 days?

Answer

4 Each of the students in Mr. Liu's class has one of the following numbers:

49.023   45.101   49.056   50.001   54.998

They each read a statement about their number:
- Justine says 'My number is 45 when rounded to the nearest whole.'
- Liam says 'When rounded to the nearest whole my number is 55.'
- Michael says 'If I round my number to the nearest hundredth I have 49.06.'
- Mersi says 'My number rounded to the nearest hundredth is 50.'
- Chris says 'My number rounded to the nearest tenth is 49.'

Decide which student has each number.

Justine   *Liam*   *Michael*   *Mersi*   *Chris*

5 Nasser's school collected 2,198 cans during a food drive. They will share the cans equally between 14 organizations. How many cans will each organization get?

Answer

6   A hotel is preparing salads for an event. Each salad needs 85 grams of lettuce. If the hotel is preparing 195 salads, how many total grams of lettuce do they need?

Answer

7   Vanita and Tylique are discussing the expression 4.5×10^4.
Vanita says "The product will be 40 times larger than 4.5."
Tylique says "No, the product will be 10,000 times larger than 4.5."
Critique both responses - explaining what parts are correct and what parts are incorrect.

Answer

8   Jimmy and Maddox are saving money to buy a video game. Jimmy has saved $15.60 and Maddox has saved $23.41. The video game costs $45.50. How much more money do they need to save?

Answer

9   5.09 > 5.6

"I know that a decimal of 9 is always bigger than a decimal of 6, so that number is bigger."

Above is Ella's work and her thinking. Critique her response, explaining what parts are correct and what parts are incorrect.

Answer

10   Jia Xin buys 12 tubes of paint, each with 0.85 ounces of paint. How much paint is in all 12 tubes?

Answer

Challenge Question!

Use the numbers 2, 3, 4, 5, 6 only once to make the comparisons true.

☐ . 5 ☐ ☐ > ☐ . 5 4 > ☐ . 4 2

Answers

Question number	Question	Answers	Standard
1	A spaceship is traveling between planets A, B, C and D. The distances between the planets are shown below. Order the distances from shortest to longest.	A - B: 3rd A - C: 5th A - D: 1st B - C: 6th B - D: 4th C - D: 2nd	5.NBT.A.3
2	A kitten weighs 1,500 grams and an adult giraffe weighs 1,500,000 grams. Complete the statement. The adult giraffe is ? times larger than the kitten.	1,000	5.NBT.A.1
3	Demi feeds her cat 9.5 ounces of cat food each day. How many ounces will Demi feed her cat over 14 days?	$9.5 \times 14 = 133$ *solved using models, place value strategies, or properties of operations	5.NBT.B.7
4	Each of the students in Mr. Liu's class has one of the following numbers: 49.023, 45.101, 49.056, 50.001, 54.998 They each read a statement about their number. Decide which student has each number.	Justine has 45.101. Liam has 54.998. Michael has 49.056. Mersi has 50.001. Chris has 49.023.	5.NBT.A.4
5	Nasser's school collected 2,198 cans during a food drive. They will share the cans equally between 14 organizations. How many cans will each organization get?	$2,198 \div 14 = 157$ cans *solved using models, place value strategies, or properties of operations	5.NBT.B.6

Question number	Question	Answers	Standard
6	A hotel is preparing salads for an event. Each salad needs 85 grams of lettuce. If the hotel is preparing 195 salads, how many total grams of lettuce do they need?	85 x 195 = 16,575 grams of lettuce *solved using the standard algorithm	5.NBT.B.5
7	Vanita and Tylique are discussing the expression 4.5 x 10^4. Vanita says "The product will be 40 times larger than 4.5." Tylique says "No, the product will be 10,000 times larger than 4.5." Critique both responses - explaining what parts are correct and what parts are incorrect.	Tylique is correct, because 10^4 = 10,000 and multiplying by this will increase the place value of all digits 4 times. 10^4 is not 40, which was Vanita's mistake. *Responses may very, but should reflect Base 10 place value understanding	5.NBT.A.2
8	Jimmy and Maddox are saving money to buy a video game. Jimmy has saved $15.60 and Maddox has saved $23.41. The video game costs $45.50. How much more money do they need to save?	$15.60 + $23.41 = $39.01 $45.50 - $39.01 = $6.49 *solved using models, place value strategies, or properties of operations	5.NBT.B.7
9	5.09 > 5.6 "I know that a decimal of 9 is always bigger than a decimal of 6, so that number is bigger." Above is Ella's work and her thinking. Critique her response, explaining what parts are correct and what parts are incorrect.	Ella compared the 9 and 6 without looking at what position they are in. The position of the decimal affects its size, so she is wrong. She also did not say that the 5 in the ones are the same value. She did use the symbol correctly (even though her answer was wrong). *Answers will vary	5.NBT.A.3

Question number	Question	Answers	Standard
10	Jia Xin buys 12 tubes of paint, each with 0.85 ounces of paint. How much paint is in all 12 tubes?	12 x 0.85 = 10.2 ounces *solved using models, place value strategies, or properties of operations	5.NBT.B.7
Challenge Question	Use the numbers 2, 3, 4, 5, 6 only once to make the comparisons true.	Answers may vary. Possible answer: 6.542 < 5.54 < 3.42	5.NBT.A.3

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