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Significant figures worksheet and answer key

Significant figures addition and subtraction worksheet answer key. Significant figures rounding and scientific notation worksheet answer key. Significant figures multiplication and division worksheet answer key. Significant figures worksheet answers. Significant figures practice worksheet answers. Significant figures and scientific notation worksheet answer key.

In positional notation, a number's significant figures, sometimes referred to as its significant digits, are the digits that are dependable and required to denote the amount of a particular thing. This worksheet will help learners in deepening their knowledge about understanding significant figures. The activities in this worksheet will practice the learner's understanding and comprehension of evaluating significant figures. In addition to this, they can also practice their solving in the activities. Lastly, the answer key in the last part of this worksheet will enable the learner to check their work or answers in the activities.

Name: _____ Date: _____

Significant Figures

Addition and Subtraction

Complete the following problems and round to the correct number of significant figures.

- $35.6 + 56.37 = 91.9$
- $4.337 + 84.7128 = 88.050$
- $6.2 + 4.14 = 10.3$
- $7.331 + 12.42 = 19.75$
- $22.5285 + 22.14 + 4.266 = 48.94$
- $88.489 + 7.133 + 6.5 = 101.2$
- $48.235 - 9.1 = 39.2$
- $16.221 - 8.28 = 7.94$
- $101.12 - 98.7 = 2.4$
- $13.7 + 25.466 = 39.2$
- $45.758 - 33.22 = 12.54$
- $19.6 - 8.77 = 10.8$
- $23 + 16.4 + 22.0 = 61$
- $24.5764 + 1.0833 = 25.6597$
- $8.31 + 7.2 + 9.4626 = 25.0$
- $3.94 + 68.77 + 83.197 = 155.91$
- $12.484 + 3.6 = 16.1$
- $19.117 - 8.11 = 11.01$
- $7.6924 + 9.6 - 4.888 = 12.4$
- $19.8 + 8.75 + 11 = 38.55$

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This can help them in assessing their mistakes if there are any. In the first part, there will be a discussion regarding the concepts and lectures the learners need to know After the discussion, an activity will be provided for the learner to apply their learning to the discussion. This part will practice the learners' skills, comprehension, and evaluation. The last activity is a reflective section. It is provided to help the learner think and assess how they performed in the lesson. At the end of the worksheet will be the answer keys to the activities. The learner will be able to check if they answered correctly or not. Learning how to determine significant figures is important in improving your knowledge and comprehension. Use this worksheet as a stepping stone in learning and practising your skills.

Name: _____ Mr. Sheehan's Pd _____

Chp 3 Sig Fig, A/P, and % Error Review WS

1. State the number of significant digits in each measurement.

- 280,400 m
- 2.84 km
- 5.029 m
- 0.003068 m
- 4.6×10^3 m
- 4.06×10^{-3} m
750. m
- 0.075 m
- 75,000 m
- 75.00 m
- 75,000.0 m
- 0.01002000 cl.

2. Round the following numbers: A) 1 B) 2 C) 3 D) 4 sig figs.

- 21.860051 A) B) C) D)
375.9723 A) B) C) D)
0.0480802744 A) B) C) D)

3. Solve the following problems and report answers with appropriate number of significant digits.

- $6.201 \text{ cm} + 7.4 \text{ cm} + 0.68 \text{ cm} + 12.0 \text{ cm} =$
- $1.6 \text{ km} + 1.62 \text{ m} + 1200 \text{ cm} =$
- $8.264 \text{ g} - 7.8 \text{ g} =$
- $10.4168 \text{ m} - 6.0 \text{ m} =$
- $12.00 \text{ kg} + 15.001 \text{ kg} =$
- $1.31 \text{ cm} \times 2.3 \text{ cm} =$
- $5.7621 \text{ m} \times 6.201 \text{ m} =$
- $20.2 \text{ cm} / 7.4107 \text{ s} =$
- $40.002 \text{ g} / 13.000005 \text{ g} =$

4. Express the left side in scientific notation and right side in standard notation.

123,876.3	8.45×10^7
1,230,000	6.74×10^3
0.002380	5.767×10^6
0.0000205	4.7×10^{-7}
15,009.22	9.7112×10^2

If you have any questions or comments, please let us know. Take the guidance on the concept of Significant Figures by taking the help of Worksheet on Significant Figures. Practice all the problems present in the Significant Figures Worksheets and get a good grip on the topic. Test your subject knowledge by taking the practice tests available on our website. Also, you can easily enhance your problem-solving skills by solving Worksheet on Significant Figures on a daily basis. Assess your preparation standards and concentrate on the areas you are facing difficulty.

Significant Figures Worksheet

1. How many significant figures are in each of the following numbers? Write your answer in the box.

1234	567
0.023	890
890	1234
9010	567
9010	567

2. Express the number in scientific notation and standard notation.

1234567	1234567
1234567	1234567
1234567	1234567
1234567	1234567
1234567	1234567

3. Express the number in scientific notation and standard notation.

1234567	1234567
1234567	1234567
1234567	1234567
1234567	1234567
1234567	1234567

Significant Figures Examples with Answers Check different problems impose on Significant Figures and get a grip on every concept available in the Significant Figures. 1. Find the Number of a Significant Figure in Each of the Following (a) 8.4 (b) 173.6 m (c) 407 g (d) 4.68 m (e) 8.1165 kg (f) 0.054 km (g) 0.00343 l (h) 93.040 mg (i) 30.030300 g (j) 40.00 km (k) 3.600 ml (l) 70.002 Solutions: (a) There are 2 significant figures available in 8.4. They are 8, 4. (b) There are 4 significant figures available in 173.6 m. They are 1, 7, 3, and 4. (c) There are 3 significant figures available in 407 g. They are 4, 0, and 7. (d) There are 3 significant figures available in 4.68 m. They are 4, 6, and 8. (e) There are 5 significant figures available in 8.1165 kg. They are 8, 1, 1, 6, and 5. (f) There are 2 significant figures available in 0.054 km. They are 5, and 4. (g) There are 3 significant figures available in 0.00343 l. They are 3, 4, and 3. (h) There are 5 significant figures available in 93.040 mg. They are 9, 3, 0, 4, and 0. (i) There are 8 significant figures available in 30.030300 g. They are 3, 0, 0, 3, 0, 3, 0, and 0. (j) There are 4 significant figures available in 40.00 km. They are 4, 0, 0, and 0. (k) There are 4 significant figures available in 3.600 ml. They are 3, 6, 0, and 0. (l) There are 5 significant figures available in 70.002. They are 7, 0, 0, 0, and 2.

2. Round off each of the following correct up to 3 significant figures (a) 57.3628 g (b) 6.31874 kg (c) 44.422 km (d) 60.001 cm (e) 0.0023596 m (f) 0.0024030 l Solution: (a) Given that 57.3628 g. It has 6 significant figures. To round off the given number into 3 significant digits, we need to round it off to 1 place after the decimal. The digit 6 is greater than 5. So, the digit 3 becomes 4, and the digits 6, 2, and 8 disappear. Therefore, 57.3628 g = 57.4 g rounded off to 3 significant figures. (b) Given that 6.31874 kg. It has 6 significant figures. To round off the given number into 3 significant digits, we need to round it off to 1 place after the decimal. The digit 8 is greater than 5. So, the digit 1 becomes 2, and the digits 8, 7, and 4 disappear. Therefore, 6.31874 kg = 6.32 kg rounded off to 3 significant figures. (c) Given that 44.422 km. It has 5 significant figures. To round off the given number into 3 significant digits, we need to round it off to 1 place after the decimal. The digit 2 is less than 5. So, the digit 4 remains 4, and the digits 2, and 2 disappear. Therefore, 44.422 km = 44.4 km rounded off to 3 significant figures. (d) Given that 60.001 cm. It has 5 significant figures. To round off the given number into 3 significant digits, we need to round it off to 1 place after the decimal. The digit 0 is less than 5. So, the digit 0 remains 0, and the digits 0, and 1 disappear. Therefore, 60.001 cm = 60.0 cm rounded off to 3 significant figures. (e) Given that 0.0023596 m. It has 5 significant figures. To round off the given number into 3 significant digits, we need to round it off to 5 places after the decimal. The digit 9 is greater than 5. So, the digit 5 becomes 6, and the digits 9, and 6 disappear. Therefore, 0.0023596 m = 0.00236 m rounded off to 3 significant figures. (f) Given that 0.0024030 l. It has 5 significant figures. To round off the given number into 3 significant digits, we need to round it off to 5 places after the decimal. The digit 3 is less than 5. So, the digit 0 remains 0, and the digits 3, and 0 disappear. Therefore, 0.0024030 l = 0.00240 l rounded off to 3 significant figures. 3.

Round off (a) 16.367 g correct to the three significant figures. (b) 0.00949 mg correct to the one significant figures. (c) 0.005618 g correct to the one significant figures. (d) 28.303 mm correct to the four significant figures. (e) 33.422 km correct to the four significant figures. (f) 4.0832 kg correct to the two significant figures. (g) 0.004628 mm correct to the one significant figures. Solution: (a) Given that 16.367 g. It has 5 significant figures. To round off the given number into 3 significant digits, we need to round it off to 1 place after the decimal. The digit 6 is greater than 5. So, digit 3 becomes 4, and the digits 6, and 7 disappear. Therefore, 16.367 g = 16.4 g rounded off to 3 significant figures. (b) Given that 0.00949 mg. It has 3 significant figures. To round off the given number into 2 significant digits, we need to round it off to 4 places after the decimal. The digit 9 is greater than 5. So, the digit 4 becomes 5, and the digit 9 disappear. Therefore, 0.00949 mg = 0.0095 mg rounded off to 2 significant figures. (c) Given that 0.005618 g. It has 4 significant figures. To round off the given number into 1 significant digit, we need to round it off to 3 places after the decimal. The digit 6 is greater than 5. So, the digit 5 becomes 6, and the digits 6, 1, and 8 disappear. Therefore, 0.005618 g = 0.006 g rounded off to 3 significant figures. (d) Given that 28.303 mm. It has 5 significant figures. To round off the given number into 4 significant digits, we need to round it off to 2 places after the decimal. The digit 3 is less than 5.

Significant Figures Practice Worksheet

How many significant figures do the following numbers have?

- 1234 4
- 0.023 2
- 890 2
- 9010 4
- 9010 5
- 1090.0010 8
- 0.00120 3
- 3.4×10^7 2
- 8.0×10^3 2
- 8.015×10^2 4
- 0.00030 2
- 1020010 6
- 780 3
- 1000 1
- 918 010 6
- 0.0001 1
- 0.00390 3
- 8120 3
- 7.991×10^{10} 4
- 72 2

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So, the digit 0 remains 0, and the digits 3 disappear. Therefore, 28.303 mm = 28.30 mm rounded off to 4 significant figures. (e) Given that 33.422 km.

Name : _____ Score : _____
Teacher : _____ Date : _____

How Many Significant Digits for Each Number?

- | | |
|-----------------------------------|------------------------------------|
| 1) 540 = _____ | 11) 5.593×10^9 = _____ |
| 2) 9620 = _____ | 12) 77 = _____ |
| 3) 200 = _____ | 13) 0.000900 = _____ |
| 4) 0.25 = _____ | 14) 1895 = _____ |
| 5) 2.900×10^{-8} = _____ | 15) 1.89×10^2 = _____ |
| 6) 49 = _____ | 16) 6.350×10^{-4} = _____ |
| 7) 0.006 = _____ | 17) 1×10^{-2} = _____ |
| 8) 0.002 = _____ | 18) 9020 = _____ |
| 9) 9.100×10^3 = _____ | 19) 9005 = _____ |
| 10) 5402 = _____ | 20) 4.39×10^1 = _____ |

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It has 5 significant figures. To round off the given number to 4 significant digits, we need to round it off to 2 places after the decimal. The digit 2 is less than 5. So, digit 2 remains 2, and the digits 2 disappear. Therefore, 33.422 km = 33.42 km rounded off to 4 significant figures. (f) Given that 4.0832 kg. It has 5 significant figures. To round off the given number to 2 significant digits, we need to round it off to 1 place after the decimal. The digit 8 is greater than 5. So, the digit 0 becomes 1, and the digits 8, 3, and 2 disappear. Therefore, 4.0832 kg = 4.1 kg rounded off to 2 significant figures. (g) Given that 0.004628 mm. It has 4 significant figures. To round off the given number to 1 significant digit, we need to round it off to 3 places after the decimal. The digit 6 is greater than 5. So, the digit 4 becomes 5, and the digits 6, 2, and 8 disappear. Therefore, 0.004628 mm = 0.005 mm rounded off to 1 significant figure. 4.
Round off (a) \$ 3067.665 to the nearest cents. (b) 0.00588 m to the nearest cm. (c) 18.0333 kg to the nearest g. (d) \$ 49.63 to the nearest dollar. Solution: (a) Given that \$ 3067.665. It has 7 significant figures. To round off the \$ 3067.665 to the nearest cents, we need to round it off to 3 places after the decimal. The digit 5 is equal to 5. So, digit 6 becomes 7, and the digit 5 disappear. Therefore, \$ 3067.665 = \$ 3067.67 (b) Given that 0.00588 m. It has 3 significant figures. To round off the 0.00588 m to the nearest cm, we need to round it off to 3 places after the decimal. The digit 5 is equal to 5. So, the digit 5 becomes 6, and the digit 8, and 8 disappear. Therefore, 0.00588 m = 0.01 m. (c) Given that 18.0333 kg. It has 6 significant figures. To round off the 18.0333 kg to the nearest g, we need to round it off to 3 places after the decimal. The digit 3 is less than 5. So, the digit 3 remains 3, and the digits 3 disappear. Therefore, 18.0333 kg = 18.033 kg. (d) Given that \$ 49.63. It has 4 significant figures. To round off the \$ 49.63 to the nearest dollar, we need to round it off to the nearest number. The digit \$ 49.63 is closer to \$ 50. Therefore, \$ 49.63 = \$ 50.