

Rounding to Decimal Places - Worksheet

Skill

Group A - Rounding to one decimal place

Round the numbers to one decimal place:

- | | | |
|---------------|---------------|-----------------|
| 1) 3.42 | 2) 3.45 | 3) 3.48 |
| 4) 0.343 | 5) 0.353 | 6) 0.373 |
| 7) 27.8145 | 8) 27.8545 | 9) 27.8945 |
| 10) 320.93184 | 11) 320.95184 | 12) 32000.99184 |

Group B - Rounding to two decimal places

Round the numbers to two decimal places:

- | | | |
|-------------|-------------|-------------|
| 1) 0.031 | 2) 0.038 | 3) 0.035 |
| 4) 65.729 | 5) 65.721 | 6) 65.7255 |
| 7) 12.067 | 8) 12.0067 | 9) 12.00067 |
| 10) 4.92875 | 11) 4.92375 | 12) 4.94675 |

Group C - Rounding to three decimal places

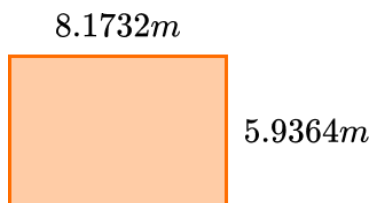
Round the numbers to three decimal places:

- | | | |
|---------------|---------------|---------------|
| 1) 0.004567 | 2) 0.005674 | 3) 0.007456 |
| 4) 5.0238954 | 5) 5.0234589 | 6) 5.0239548 |
| 7) 42.8897 | 8) 42.8997 | 9) 42.9997 |
| 10) 123.45678 | 11) 876.54321 | 12) 0.0000999 |

Rounding to Decimal Places - Worksheet

Applied

- 1) (a) If 1.4897 rounded to 3 decimal places is X and 1.4897 rounded to 1 decimal place is Y , find the value of $Y - X$.
- (b) If 2.437 rounded to 1 decimal place is P and rounded to one decimal place is Q , find the value of $\frac{Q}{P}$.
- 2) (a) Carla and Sally want to find the area of the rectangle. Carla multiplies the length by the width and then rounds her answer to 1 decimal place. Sally rounds the length and width to 1 decimal place and then multiplies them. Find the difference between their answers.



- (b) A sprinter can run at an average speed of 8.2 metres per second. How long will it take them to run 100 metres, to the nearest hundredth of a second?
- 3) (a) A household uses 85 cubic metres of water. If the cost of water is £1.9101 per cubic metre. How much is the household's water bill to the nearest penny.
- (b) The bill for 94 cubic metres of sewerage for a household is £306.11. Find the cost of 1 cubic metre of sewerage correct to 3 decimal places.
- 4) (a) Find the cube root of 45 correct to 2 decimal places.
- (b) Find 1.06^4 correct to 3 decimal places.

Rounding to Decimal Places - Exam Questions

- 1) (a) Write 27.932 correct to two decimal places.
(1)
- (b) Write 3.1415927 correct to three decimal places.
(1)
- (c) Write 286.976 correct to one decimal place.
(1)
- (3 marks)**
-

- 2) Ben was subtracting some decimals on his calculator and the display showed the answer as 7.8469. Ben needed to round his answer to two decimal places. He wrote his answer is 7.84.
(2 marks)
- Explain the mistake Ben has made in his rounding, and write the correct answer.
-

- 3) (a) Use a calculator to work out $\frac{4.6 \times 3.7}{\sqrt{6.2}}$
(2)
- Write down all of the digits on your calculator screen.
- (b) Round your answer to part (a) to one decimal place.
(1)
- (3 marks)**
-

- 4) The average price of electricity is 16.7p per kWh.
- (a) Find the electricity bill of a household that uses 482kWh, giving your answer in pounds to the nearest penny.
(2)
- (b) Find the number of kWh a household has used if their electricity bill is £60. Give your answer to one decimal place.
(2)
- (4 marks)**


Rounding to Decimal Places - Answers

	Question	Answer
	Skill Questions	
Group A	Round the numbers to one decimal place: 1) 3.42 2) 3.45 3) 3.48 4) 0.343 5) 0.353 6) 0.373 7) 27.8145 8) 27.8545 9) 27.8945 10) 320.93184 11) 320.95184 12) 32000.99184	1) 3.4 2) 3.5 3) 3.5 4) 0.3 5) 0.4 6) 0.4 7) 27.8 8) 27.9 9) 27.9 10) 320.9 11) 320.1 12) 32001.0
Group B	Round the numbers to two decimal places: 1) 0.031 2) 0.038 3) 0.035 4) 65.729 5) 65.721 6) 65.7255 7) 12.067 8) 12.0067 9) 12.00067 10) 4.92875 11) 4.92375 12) 4.94675	1) 0.03 2) 0.04 3) 0.04 4) 65.73 5) 65.72 6) 65.73 7) 12.07 8) 12.01 9) 12.00 10) 4.93 11) 4.92 12) 4.95

Rounding to Decimal Places - Answers

Group C	Round the numbers to three decimal places:				
	1) 0.004567	2) 0.005674	1) 0.005	2) 0.006	
	3) 0.007456	4) 5.0238954	3) 0.007	4) 5.024	
	5) 5.0234589	6) 5.0239548	5) 5.023	6) 5.024	
	7) 42.8897	8) 42.8997	7) 42.890	8) 42.900	
	9) 42.9997	10) 123.45678	9) 43.000	10) 123.457	
	11) 876.54321	12) 0.0000999	11) 876.543	12) 0.000	

Rounding to Decimal Places - Answers

	Question	Answer
	Applied Questions	
1)	<p>(a) If 1.4897 rounded to 3 decimal places is X and 1.4897 rounded to 1 decimal place is Y, find the value of $Y - X$.</p> <p>(b) If 2.437 rounded to 1 decimal place is P and rounded to one decimal place is Q, find the value of $\frac{Q}{P}$.</p>	<p>(a) 0.01</p> <p>(b) 3</p>
2)	<p>(a) Carla and Sally want to find the area of the rectangle. Carla multiplies the length by the width and then rounds her answer to 1 decimal place. Sally rounds the length and width to 1 decimal place and then multiplies them. Find the difference between their answers.</p> <p style="text-align: center;">$8.1732m$</p> <div style="display: flex; align-items: center; justify-content: center;">  <div style="margin-left: 20px;">$5.9364m$</div> </div> <p>(b) A sprinter can run at an average speed of 8.2 metres per second. How long will it take them to run 100 metres, to the nearest hundredth of a second?</p>	<p>(a) Carla = $48.5m^3$ Sally = $48.38m^3$ Difference = $0.12m^3$</p> <p>(b) 12.20 seconds</p>
3)	<p>(a) A household uses 85 cubic metres of water. If the cost of water is £1.9101 per cubic metre. How much is the household's water bill to the nearest penny.</p>	<p>(a) £162.36</p>

Rounding to Decimal Places - Answers

	(b) The bill for 94 cubic metres of sewerage for a household is £306.11. Find the cost of 1 cubic metre of sewerage correct to 3 decimal places.	(b) £3.256 to 3 d.p.
4)	(a) Find the cube root of 45 correct to 2 decimal places. (b) Find 1.06^4 correct to 3 decimal places.	(a) 3.56 to 2 d.p. (b) 1.262 to 3 d.p.

Rounding to Decimal Places - Mark Scheme

	Question	Answer	
	Exam Questions		
1) (a)	Write 27.932 correct to two decimal places.	(a) 27.93	(1)
(b)	Write 3.1415927 correct to three decimal places.	(b) 3.142	(1)
(c)	Write 286.976 correct to one decimal place.	(c) 287.0	(1)
2)	<p>Ben was subtracting some decimals on his calculator and the display showed the answer as 7.8469. Ben needed to round his answer to two decimal places. He wrote his answer is 7.84.</p> <p>Explain the mistake Ben has made in his rounding, and write the correct answer.</p>	<p>Ben rounded down when he should have rounded up.</p> <p>The answer should be 7.85.</p>	(2)
3) (a)	<p>Use a calculator to work out $\frac{4.6 \times 3.7}{\sqrt{6.2}}$.</p> <p>Write down all of the digits on your calculator screen.</p>	(a) If 17.02 or 2.48997... seen. Final answer of 6.835396489.	(2)
(b)	Round your answer to part (a) to one decimal place.	(b) Rounded correctly to 6.8.	(1)

Rounding to Decimal Places - Mark Scheme

4)	The average price of electricity is 16.7p per kWh.		
(a)	Find the electricity bill of a household that uses 482kWh, giving your answer in pounds to the nearest penny.	(a) $0.167 \times 482 = 80.494$ £80.49	(2)
(b)	Find the number of kWh a household has used if their electricity bill is £60. Give your answer to one decimal place.	(b) $60 \div 0.167 = 359.281\dots$ 359.3kWh	(2)

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