

Significant Figures - Worksheet

Skill

Group A - Rounding to one significant figure

Round the numbers to one significant figure:

- | | | |
|----------|----------------|------------|
| 1) 340 | 2) 3460 | 3) 34670 |
| 4) 2.83 | 5) 28.3 | 6) 283 |
| 7) 0.782 | 8) 0.0782 | 9) 0.00782 |
| 10) 887 | 11) 0.00004217 | 12) 650000 |

Group B - Rounding to two significant figures

Round the numbers to two significant figures:

- | | | |
|--------------|------------|-------------|
| 1) 37500 | 2) 823000 | 3) 936 |
| 4) 20376 | 5) 3078 | 6) 405 |
| 7) 3.194 | 8) 0.3194 | 9) 0.003194 |
| 10) 0.001053 | 11) 2.0056 | 12) 8179340 |

Group C - Rounding to three significant figures

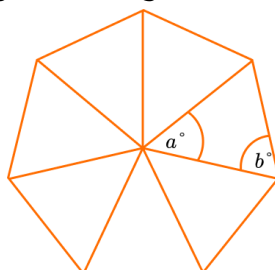
Round the numbers to three significant figures:

- | | | |
|------------|-------------|--------------|
| 1) 53812 | 2) 53852 | 3) 53962 |
| 4) 0.34193 | 5) 0.034193 | 6) 0.0034193 |
| 7) 4021 | 8) 4028 | 9) 400280 |
| 10) 2.3581 | 11) 23.518 | 12) 563.278 |

Significant Figures - Worksheet

Applied

- 1) (a) A square has an area of 32cm^2 . Find the side length of the square to two significant figures.
- (b) The area of a circle can be found using the formula $A = \pi r^2$, where r is the radius of the circle and $\pi = 3.1416$ to 4 d.p.. Find the area of a circle with radius 5.8cm , giving your answer to three significant figures.
- 2) (a) A school has 1800 pupils, rounded to two significant figures. What is the maximum number of pupils that go to the school?
- (b) A piece of string was measured to be 65.7cm to three significant figures. What is the minimum length of the piece of string?
- 3) (a) Charlie wants to estimate the answer to the calculation $\frac{32.6 \times 4.157}{5.82}$. He rounds each number to one significant figure and then performs the calculation mentally. What answer should Charlie get for his estimate?
- (b) Nish estimates the answer to $\frac{54.8 \times 1.97}{9.67}$ by rounding the numbers to one significant figure. She gets an estimate of 11. Has she made an error with her method?
- 4) The figure shows a regular heptagon split into 7 identical triangles from the centre. Giving your answers to three significant figures. Find:



- 4) (a) The size of angle a .
- (b) The size of angle b .

Significant Figures - Exam Questions

- 1) (a) Write 467983 correct to two significant figures. (1)
- (b) Write 0.03887 correct to one significant figure. (1)
- (c) Write 60.7328 correct to three significant figures. (1)
- (3 marks)**
-
- 2) Sam was finding the area of a compound shape. His
calculated result was 60942.937 cm^2 . He needs to **(1 mark)**
round this area to two significant figures. Choose the
correct answer.
 60900 cm^2 61000 cm^2 60942.94 cm^2
 60000 cm^2
-
- 3) (a) Use a calculator to work out $\frac{\sqrt{6.79}}{3.72 - 2.81}$. Write down
all of the digits on your calculator screen. **(2)**
- (b) Round your answer to part (a) to three significant
figures. **(1)**
- (3 marks)**
-
- 4) The attendance at a live concert was given as
approximately 60000.
- (a) Terry thinks the amount was rounded to one significant
figure. What is the minimum amount of people that **(1)**
could have attended?
- (b) Grace thinks the amount was rounded to two significant
figures. What is the maximum amount of people that **(1)**
could have attended? **(2 marks)**

Significant Figures - Answers

	Question	Answer
	Skill Questions	
Group A	Round the numbers to one significant figure: 1) 340 2) 3460 3) 34670 4) 2.83 5) 28.3 6) 283 7) 0.782 8) 0.0782 9) 0.00782 10) 887 11) 0.00004217 12) 650000	1) 300 2) 3000 3) 30000 4) 3 5) 30 6) 300 7) 0.8 8) 0.08 9) 0.008 10) 900 11) 0.00004 12) 700000
Group B	Round the numbers to two significant figures: 1) 37500 2) 823000 3) 936 4) 20376 5) 3078 6) 405 7) 3.194 8) 0.3194 9) 0.003194 10) 0.001053 11) 2.0056 12) 8179340	1) 38000 2) 820000 3) 940 4) 20000 5) 3100 6) 410 7) 3.2 8) 0.32 9) 0.0032 10) 0.0011 11) 2.0 12) 8200000

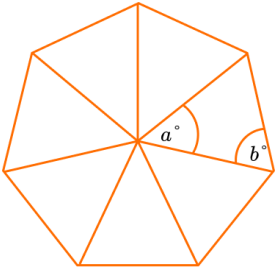
Significant Figures - Answers

Group C	Round the numbers to three significant figures: 1) 53812 2) 53852 3) 53962 4) 0.34193 5) 0.034193 6) 0.0034193 7) 4021 8) 4028 9) 400280 10) 2.3581 11) 23.518 12) 563.278	1) 53800 2) 53900 3) 54000 4) 0.342 5) 0.0342 6) 0.00342 7) 4020 8) 4030 9) 400000 10) 2.36 11) 23.5 12) 563
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Significant Figures - Answers

	Question	Answer
	Applied Questions	
1)	(a) A square has an area of 32cm^2. Find the side length of the square to two significant figures. (b) The area of a circle can be found using the formula $A = \pi r^2$, where r is the radius of the circle and $\pi = 3.1416$ to 4 d.p.. Find the area of a circle with radius 5.8cm, giving your answer to three significant figures.	(a) 5.7cm (b) 106cm^2
2)	(a) A school has 1800 pupils, rounded to two significant figures. What is the maximum number of pupils that go to the school? (b) A piece of string was measured to be 65.7cm to three significant figures. What is the minimum length of the piece of string?	(a) 1849 (b) 65.65cm
3)	(a) Charlie wants to estimate the answer to the calculation $\frac{32.6 \times 4.157}{5.82}$. He rounds each number to one significant figure and then performs the calculation mentally. What answer should Charlie get for his estimate? (b) Nish estimates the answer to $\frac{54.8 \times 1.97}{9.67}$ by rounding the numbers to one significant figure. She gets an estimate of 11. Has she made an error with her method?	(a) 20 (b) Yes, she rounded 54.8 to 55 instead of 50. Estimate should be 10.

Significant Figures - Answers

4)	The figure shows a regular heptagon split into 7 identical triangles from the centre. Giving your answers to three significant figures. Find:  (a) The size of angle a. (b) The size of angle b.	(a) 51.4° (b) 64.3°
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Significant Figures - Mark Scheme

	Question	Answer	
	Exam Questions		
1) (a)	Write 467983 correct to two significant figures.	(a) 470000	(1)
(b)	Write 0.03887 correct to one significant figure.	(b) 0.04	(1)
(c)	Write 60.7328 correct to three significant figures.	(c) 60.7	(1)
2)	Sam was finding the area of a compound shape. His calculated result was 60942.937cm^2. He needs to round this area to two significant figures. Choose the correct answer. 60900cm^2 61000cm^2 60942.94cm^2 60000cm^2	61000cm^2	(1)
3) (a)	Use a calculator to work out $\frac{\sqrt{6.79}}{3.72 - 2.81}$. Write down all of the digits on your calculator screen.	(a) Finding intermediate results of 2.605... or 0.91 from the subtraction seen. Final result of 2.863475653.	(2)
(b)	Round your answer to part (a) to three significant figures.	(b) Rounded correctly to 2.86.	(1)
4)	The attendance at a live concert was given as approximately 60000.		
(a)	Terry thinks the amount was rounded to one significant figure. What is the minimum amount of people that could have attended?	(a) 55000	(1)
(b)	Grace thinks the amount was rounded to two significant figures. What is the maximum amount of people that could have attended?	(b) 60499	(1)

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