

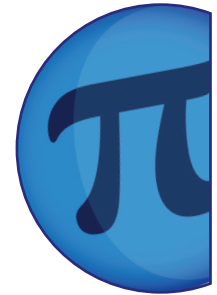


Rounding: Snails vs Rockets

NAME:

CLASS:

DATE:



Basic

1) Complete the following tables by rounding the numbers to the given degree of accuracy.

a)

Number	Round off to nearest 1000	Round off to nearest 100	Round off to nearest 10
6412			
2575			
7797			
12,999			
24,199			

b)

Number	Round off to nearest whole number	Round off to 1 decimal place	Round off to 2 decimal places
0.123456			
0.566589			
0.0778899			
3.3333333			
23.89765			

3) Round these city populations to the nearest million:

a) Mexico City 21.5 million

b) Sao Paulo 19.9 million

c) Tokyo 19.5 million

d) New York 15.7 million

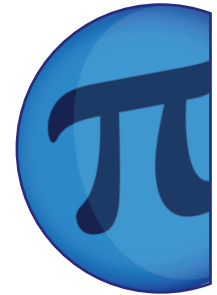


Rounding: Snails vs Rockets

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Core

1) Complete the following tables by rounding the numbers to the given degree of accuracy.

a)

Number	Round off to nearest whole number	Round off to 1 decimal place	Round off to 2 decimal places
0.123456			
0.566589			
0.0778899			
3.3333333			
23.89765			

b)

Number	Round off to 1 significant figure	Round off to 2 significant figures	Round off to 3 significant figures
26,895			
459,789.234			
0.034576			
0.00876			
23,456,345			

2) Jason carries out the following calculations on his calculator, and writes his answers correct to two decimal places. Use an appropriate estimate to decide which answers could be correct and which are definitely incorrect.

a) $3.45 \times 12.746 = 43.97$

b) $10.01^2 + 6.909^2 = 132.44$

c) $435 + 342 \times 10.02 = 3861.84$

d) $0.98^2 = 12.01$



Rounding: Snails vs Rockets

Core

3) A jar of sweets contains 390 sweets to the nearest 10; thus the number of sweets may not be exactly 390.

a) What is the smallest number of sweets that could be in the jar?

b) What is the largest number of sweets that could be in the jar?

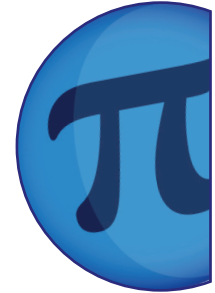


Rounding: Snails vs Rockets

NAME:

CLASS:

DATE:



Advanced

1) Jason carries out the following calculations on his calculator, and writes his answers correct to two decimal places. Use an appropriate estimate to decide which answers could be correct and which are definitely incorrect.

a) $3.45 \times 12.746 = 43.97$

b) $10.01^2 + 6.909^2 = 132.44$

c) $435 + 342 \times 10.02 = 3861.84$

d) $0.98^2 = 12.01$

2) A jar of sweets contains 390 sweets to the nearest 10; thus the number of sweets may not be exactly 390.

a) What is the smallest number of sweets that could be in the jar?

b) What is the largest number of sweets that could be in the jar?



Rounding: Snails vs Rockets

Advanced

3) Perform the following calculations for the volume of a sphere with a radius of 4cm, using the formula $V = \frac{4}{3}\pi r^3$

a) Calculate the volume using the π button on your calculator. Round your answer off to three significant figures.

b) Calculate the volume using the estimate $\pi = 3.14$. Round your answer off to three significant figures.

c) Discuss the difference in your final answers.

4) Sam is in training for an 800m race. He states that he can run 800m in 120 seconds. Both of these measurements are given to two significant figures. Find his maximum speed.



Rounding: Snails vs Rockets

ANSWERS

Basic

1)

Number	Round off to nearest 1000	Round off to nearest 100	Round off to nearest 10
6412	6000	6400	6410
2575	3000	2600	2580
7797	8000	7800	7800
12,999	13,000	13,000	13,000
24,199	24,000	24,200	24,200

2)

Number	Round off to nearest whole number	Round off to 1 decimal place	Round off to 2 decimal places
0.123456	0	0.1	0.12
0.566589	1	0.6	0.57
0.0778899	0	0.1	0.08
3.3333333	3	3.3	3.33
23.89765	24	24.9	24.90

3) a) 22 million

b) 20 million

c) 20 million

d) 16 million

Core

1)

Number	Round off to nearest whole number	Round off to 1 decimal place	Round off to 2 decimal places
0.123456	0	0.1	0.12
0.566589	1	0.6	0.57
0.0778899	0	0.1	0.08
3.3333333	3	3.3	3.33
23.89765	24	24.9	24.90



Rounding: Snails vs Rockets

ANSWERS

Core continued...

2)

Number	Round off to 1 significant figure	Round off to 2 significant figures	Round off to 3 significant figures
26,895			
459,789.234			
0.034576			
0.00876			
23,456,345			

3) a) correct b) correct c) correct d) incorrect

4) a) 385 b) 394

Advanced

1) a) correct b) correct c) correct d) incorrect

2) a) 385 b) 394

3) a) 268cm³ b) 268cm³

4) 7.0m/s