

Revision 2: Rounding, Estimation and Upper and lower bounds

Name:	Class:	Date:
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Mark	/ 47	%
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1) Round to the nearest whole number [2]

a) 91.7

b) 69.9

2) Round to the nearest 10 [2]

a) 44

b) 3199

3) Round to the nearest 100 [2]

a) 922

b) 951

4) Round to the nearest 1000 [2]

a) 76439

b) 9607

5) Round to one decimal place [2]

a) 4.144

b) 98.95

6) Round to two decimal places [1]

9.091

7) An office worker's hourly wage is £26.346. Give her hourly wage in pounds rounded to the nearest penny.

[1]

8) Round to three decimal places [2]

a) 1.5544

b) 2.8597

9) Round to 3 significant figures [4]

a) 0.4491

b) 35949

c) 29983

d) 0.9067

10) Round to 2 significant figures [3]

a) 0.5206

b) 247

c) 99848

11) Round to 1 significant figure [3]

a) 9421

b) 9.5

c) 0.8075

12) Round the numbers in the table. [1]

Number	1 significant figure	2 significant figures	3 significant figures
1.646	2		
6491			
198.369			
0.3083			

13) Estimate the answer by rounding each number to 1 significant figure first

[6]

a)

$$681.78 + 552.64$$

b)

$$663.58 - 283.45$$

c)

$$163.86 \times 4.8$$

d)

$$128.666 \div 0.217$$

e)

$$17.673 \times 0.127$$

f)

$$2.02 \times 15.7 \div 3.86$$

14) Estimate the answer by rounding the base to 1 significant figure first

[1]

$$4.47^3$$

15) The number 87 has been rounded to the nearest integer. Find its lower and upper bounds.

[1]

16) The number 72 has been rounded to the nearest integer. Find its lower and upper bounds.

[1]

17) The number 50 has been rounded to the nearest 10. Find its lower and upper bounds. [1]

18) The number 40 has been rounded to the nearest 10. Find its lower and upper bounds. [1]

19) The number 10.8 has been rounded to the nearest tenth. Find its lower and upper bounds. [1]

20) The number 76.3 has been rounded to the nearest tenth. Find its lower and upper bounds. [1]

21) The number 7 has been rounded to 1 significant figure. Find its lower and upper bounds. [1]

22) The number 3 has been rounded to 1 significant figure. Find its lower and upper bounds. [1]

23) Find the upper and lower bounds of $a \times b$, where $a = 7$ and $b = 10$ (both have been rounded to the nearest unit).

[1]
24) Find the upper and lower bounds of $\frac{a}{b}$, where $a = 4$ and $b = 7$ (both have been rounded to the nearest integer).

[1]
25) Find the upper and lower bounds of $a + b$, where $a = 12$ and $b = 13$ (both have been rounded to the nearest unit).

[1]
26) Find the upper and lower bounds of $a - b$, where $a = 11$ and $b = 5$ (both have been rounded to the nearest unit).

[1]

27) The weight of a TV is 4 kg, correct to the nearest kg. [1]
Find the greatest possible weight of the TV.

28) The distance between two towns is 4000 miles, rounded to the nearest 1000 miles. [1]
Find the maximum possible distance between them.

29) Savannah drives 8 km (correct to the nearest km) to work, in 16 minutes (correct to the nearest minute). Find the least possible average speed.

[1]

Solutions for the assessment Revision 2: Rounding, Estimation and Upper and lower bounds

1) a) 92

b) 70

2) a) 40

b) 3200

3) a) 900

b) 1000

4) a) 76000

b) 10000

5) a) 4.1

b) 99.0

6) 9.09

7) £26.35

8) a) 1.554

b) 2.860

9) a) 0.449

b) 35900

c) 30000

d) 0.907

10) a) 0.52

b) 250

c) 100000

11) a) 9000

b) 10

c) 0.8

12) $1.646 = 2, 1.6, 1.65$

$6491 = 6000, 6500, 6490$

$198.369 = 200, 200, 198$

$0.3083 = 0.3, 0.31, 0.308$

13) a) $700 + 600 = 1300$

Exact answer = 1234.42

b) $700 - 300 = 400$

Exact answer = 380.13

c) $200 \times 5 = 1000$

Exact answer = 786.528

d) $100 \div 0.2 = 100 \times 5 = 500$

Exact answer = 592.930875576

e) $20 \times 0.1 = 20 \div 10 = 2$

Exact answer = 2.244471

f) $2 \times 20 \div 4 = 10$

Exact answer = 8.21606217617

14) $4^3 = 64$

Exact answer = 89.314623

15) $86.5 \leq 87 < 87.5$

16) $71.5 \leq 72 < 72.5$

17) $45 \leq 50 < 55$

18) $35 \leq 40 < 45$

19) $10.75 \leq 10.8 < 10.85$

20) $76.25 \leq 76.3 < 76.35$

21) $6.5 \leq 7 < 7.5$

22) $2.5 \leq 3 < 3.5$

23) $61.75 \leq a \times b < 78.75$

24) $0.467 \leq \frac{a}{b} < 0.692$

25) $24 \leq a + b < 26$

26) $5 \leq a - b < 7$

27) 4.5 kg

28) 4500 miles

29) 27.3 km/h