1.7 Rounding: 2-hour Pack

EDEXCEL 1MA1 · Calculator allowed · about 120 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Work out 5.98 + 6.07. Give your answer to 1 decimal place.

(Total for Question 1 is 2 marks)

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2 Pens cost £2.84 each. Ali has £46. What is the greatest number of pens Ali can buy? You must show your working.

(Total for Question 2 is 3 marks)

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3 A machine measures a length as 943.101 metres. Write this length (a) correct to 2 decimal places, (b) correct to 2 significant figures.

(Total for Question 3 is 2 marks)

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4 Round 76,687 to the nearest 1000.

(Total for Question 4 is 1 mark)

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5 Pens cost £11.86 each. Ali has £32. What is the greatest number of pens Ali can buy? You must show your working.

(Total for Question 5 is 3 marks)

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6 Priya measures a plank of wood as 2.386 metres.

(a) Round 2.386 to 1 decimal place. **(1)**

(b) Round 2.386 to 2 decimal places. **(1)**

(Total for Question 6 is 2 marks)

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7 Work out 5.46 + 2.87. Give your answer to 1 decimal place.

(Total for Question 7 is 2 marks)

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8 Round 2231.8 to 2 significant figures.

(Total for Question 8 is 2 marks)

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9 A machine measures a length as 694.476 metres. Write this length (a) correct to 1 decimal place, (b) correct to 3 significant figures.

(Total for Question 9 is 2 marks)

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10 Pens cost £8.70 each. Ali has £39. What is the greatest number of pens Ali can buy? You must show your working.

(Total for Question 10 is 3 marks)

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11 Work out 6.45 + 2.66. Give your answer to the nearest whole number.

(Total for Question 11 is 2 marks)

---

12 Round 55,770 to the nearest 10.

(Total for Question 12 is 1 mark)

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13 Pens cost £5.64 each. Ali has £57. What is the greatest number of pens Ali can buy? You must show your working.

(Total for Question 13 is 3 marks)

---

14 Round 110.254 to 2 significant figures.

(Total for Question 14 is 2 marks)

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15 Work out 3.57 + 6.89. Give your answer to the nearest whole number.

(Total for Question 15 is 2 marks)

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16 Round 91,121 to the nearest 10.

(Total for Question 16 is 1 mark)

---

17 Pens cost £5.51 each. Ali has £39. What is the greatest number of pens Ali can buy? You must show your working.

(Total for Question 17 is 3 marks)

---

18 Round 609.508 to 3 significant figures.

(Total for Question 18 is 2 marks)

---

19 Round 7,089 to the nearest 100.

(Total for Question 19 is 1 mark)

---

20 Round 652.304 to 2 significant figures.

(Total for Question 20 is 2 marks)

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21 Round 5.0996 to 3 decimal places.

(Total for Question 21 is 1 mark)

---

22 A ferry carried 156 passengers on a crossing.
Round 156 to the nearest 10.

(Total for Question 22 is 1 mark)

---

23 A metal rod measures 6.972 metres.
Round 6.972 to 2 significant figures.

(Total for Question 23 is 1 mark)

---

24 Round 0.0999 to 2 significant figures.

(Total for Question 24 is 1 mark)

---

25 4,927 people attended a Saturday football match.
Round 4,927 to the nearest 100.

(Total for Question 25 is 1 mark)

---

26 68,459 people registered for a charity marathon.
Round 68,459 to the nearest 1000.

(Total for Question 26 is 1 mark)

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27 A recipe needs 23.6 ounces of flour.
Round 23.6 to the nearest whole number.

(Total for Question 27 is 1 mark)

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28 A stopwatch shows a runner's time as 12.457 seconds.

(a) Round 12.457 to 1 decimal place. **(1)**

(b) Round 12.457 to 2 decimal places. **(1)**

(Total for Question 28 is 2 marks)

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29 A train ticket from Leeds to York costs £34.55.
Round £34.55 to the nearest pound.

(Total for Question 29 is 1 mark)

---

30 A packet of seeds has a mass of 0.0846 kg.
Round 0.0846 to 1 significant figure.

(Total for Question 30 is 1 mark)

---

31 Round 274 to the nearest 10.

(Total for Question 31 is 1 mark)

---

32 Round 4,862 to the nearest 100.

(Total for Question 32 is 1 mark)

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33 Round 15,648 to the nearest 1,000.

(Total for Question 33 is 1 mark)

---

34 Round 583 to the nearest 10.

(Total for Question 34 is 1 mark)

---

35 Round 7,246 to the nearest 100.

(Total for Question 35 is 1 mark)

---

36 A school bake sale raised money from three collection tins: £96.40, £158.75 and £63.20.

(a) Round each amount to the nearest £10. **(3)**

(b) Use your answers to part (a) to estimate the total amount raised. **(1)**

(Total for Question 36 is 4 marks)

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37 This question is about rounding large numbers to a given number of significant figures.

(a) Round 342,915 to 3 significant figures. **(2)**

(b) A technology company's annual profit was £2,384,650. **(2)**
Round the profit to 2 significant figures.

(Total for Question 37 is 4 marks)

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38 Round 15.976 to 3 significant figures.

(Total for Question 38 is 2 marks)

---

39 Priya earned £96.20 and Yusuf earned £58.75 from a car boot sale.

(a) Round each amount to the nearest £10. **(2)**

(b) Use your answers to part (a) to estimate how much more Priya earned than Yusuf. **(1)**

(Total for Question 39 is 3 marks)

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40 Visitor numbers at three UK theme parks last month were 18,462, 21,905 and 17,050.

(a) Round 18,462 to 2 significant figures. **(1)**

(b) Round 21,905 to 2 significant figures. **(1)**

(c) Round 17,050 to 2 significant figures. **(1)**

(Total for Question 40 is 3 marks)

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41 Round 3.846 to 2 decimal places.

(Total for Question 41 is 1 mark)

---

42 Round 0.04687 to 3 decimal places.

(Total for Question 42 is 1 mark)

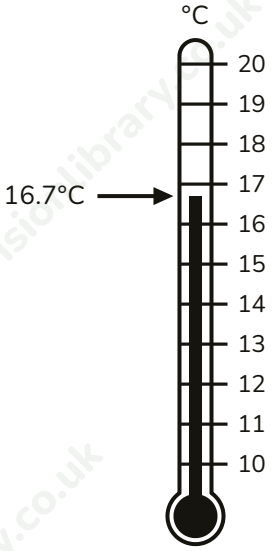
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43 Round 82.56 to 1 significant figure.

(Total for Question 43 is 1 mark)

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44 The diagram shows a thermometer scale marked in whole degrees Celsius from 10 to 20. The mercury level is shown resting at 16.7°C. Round the temperature to the nearest whole number.



(Total for Question 44 is 1 mark)

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45 Round 0.08127 to 3 decimal places.

(Total for Question 45 is 1 mark)

---

46 Round 267.4 to 1 significant figure.

(Total for Question 46 is 1 mark)

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47 Round 999.6 to the nearest 10 and to the nearest 100. Explain briefly why both answers may be the same.

(Total for Question 47 is 3 marks)

48 Round 0.007894 to 2 significant figures.

(Total for Question 48 is 1 mark)

49 Round 0.002958 to 2 significant figures.

(Total for Question 49 is 1 mark)

50 Kwame records an overnight low temperature of -18.7°C at a weather station in Fort William. Round -18.7 to the nearest whole number.

(Total for Question 50 is 1 mark)

51 Show that 0.0296 rounded to 2 significant figures is 0.030.

(Total for Question 51 is 2 marks)

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Mark scheme · 1.7 Rounding: 2-hour Pack

A correct answer earns full marks unless the question asks for working, a method, proof or explanation.

Question 1

12.05 seen	**M1**
12.1 cao	**A1**

Answer: 12.1

Question 2

46 / 2.84 or 4600 / 284	**M1**
16.20 seen	**A1**
16 (rounded down, with reason)	**B1**

Answer: 16

Question 3

943.10 cao	**B1**
940 cao	**B1**

Answer: (a) 943.10, (b) 940

Question 4

77000 cao	**B1**

Answer: 77000

Question 5

32 / 11.86 or 3200 / 1186	**M1**
2.70 seen	**A1**
2 (rounded down, with reason)	**B1**

Answer: 2

Question 6

(a) 2.4 cao	**B1**

(a) Answer: 2.4

(b) 2.39 cao	**B1**

(b) Answer: 2.39

Question 7

8.33 seen	**M1**
8.3 cao	**A1**

Answer: 8.3

Question 8

identifies the digit that decides rounding	**M1**
2200 cao	**A1**

Answer: 2200

Question 9

694.5 cao	**B1**
694 cao	**B1**

Answer: (a) 694.5, (b) 694

Question 10

39 / 8.70 or 3900 / 870	**M1**
4.48 seen	**A1**
4 (rounded down, with reason)	**B1**

Answer: 4

Question 11

9.11 seen	**M1**
9 cao	**A1**

Answer: 9

Question 12

55770 cao	**B1**

Answer: 55770

Question 13

57 / 5.64 or 5700 / 564	**M1**
10.11 seen	**A1**
10 (rounded down, with reason)	**B1**

Answer: 10

Question 14

identifies the digit that decides rounding	**M1**
110 cao	**A1**

Answer: 110

Question 15

10.46 seen	**M1**
10 cao	**A1**

Answer: 10

Question 16

91120 cao	**B1**

Answer: 91120

Question 17

39 / 5.51 or 3900 / 551	**M1**
7.08 seen	**A1**
7 (rounded down, with reason)	**B1**

Answer: 7

Question 18

identifies the digit that decides rounding	**M1**
610 cao	**A1**

Answer: 610

Question 19

7100 cao	**B1**

Answer: 7100

Question 20

identifies the digit that decides rounding	**M1**
650 cao	**A1**

Answer: 650

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Question 21

5.100 cao **B1**

Answer: 5.100

Question 22

160 cao **B1**

Answer: 160

Question 23

7.0 cao **B1**

Answer: 7.0

Question 24

0.10 cao **B1**

Answer: 0.10

Question 25

4,900 cao **B1**

Answer: 4,900

Question 26

68,000 cao **B1**

Answer: 68,000

Question 27

24 cao **B1**

Answer: 24

Question 28

(a) 12.5 cao **B1**

(a) Answer: 12.5

(b) 12.46 cao **B1**

(b) Answer: 12.46

Question 29

£35 cao **B1**

Answer: £35

Question 30

0.08 cao **B1**

Answer: 0.08

Question 31

270 cao **B1**

Answer: 270

Question 32

4,900 cao **B1**

Answer: 4900

Question 33

16,000 cao **B1**

Answer: 16000

Question 34

580 cao **B1**

Answer: 580

Question 35

7,200 cao **B1**

Answer: 7,200

Question 36

(a) 96.40 rounds to 100 cao **B1**

(a) 158.75 rounds to 160 cao **B1**

(a) 63.20 rounds to 60 cao **B1**

(a) Answer: £100, £160, £60

(b) 320 (pounds), ft correct sum of the three rounded values from part (a) **B1**

(b) Answer: £320

Question 37

(a) identifies the first 3 significant figures as 3, 4, 2 and the next digit as 9 oe **M1**

(a) 343,000 cao **A1**

(a) Answer: 343,000

(b) identifies the first 2 significant figures as 2, 3 and the next digit as 8 oe **M1**

(b) £2,400,000 cao **A1**

(b) Answer: £2,400,000

Question 38

identifies the first 3 significant figures as 1, 5, 9 and the next digit as 7 oe **M1**

16.0 cao **A1**

Answer: 16.0

Question 39

(a) 96.20 rounds to 100 cao **B1**

(a) 58.75 rounds to 60 cao **B1**

(a) Answer: £100, £60

(b) 40 (pounds), ft correct difference of the two rounded values from part (a) **B1**

(b) Answer: £40

Question 40

(a) 18,000 cao **B1**

(a) Answer: 18,000

(b) 22,000 cao **B1**

(b) Answer: 22,000

(c) 17,000 cao **B1**

(c) Answer: 17,000

Question 41

3.85 cao **B1**

Answer: 3.85

Question 42

0.047 cao **B1**

Answer: 0.047

Question 43

80 cao **B1**

Answer: 80

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Question 44

17 cao **B1**

Answer: 17°C

Question 45

0.081 cao **B1**

Answer: 0.081

Question 46

300 cao **B1**

Answer: 300

Question 47

nearest 10: 1,000 identified **M1**

nearest 100: 1,000 identified **M1**

explain that rounding crosses the threshold so both round up to 1,000 oe **B1**

Answer: nearest 10 = 1000; nearest 100 = 1000

Question 48

0.0079 cao **B1**

Answer: 0.0079

Question 49

0.0030 cao **B1**

Answer: 0.0030

Question 50

-19 cao **B1**

Answer: -19°C

Question 51

identifies the first 2 significant digits as 2 and 9, and notes the next digit 6 causes rounding up with a carry (9 rounds to 10) oe **M1**

0.030 cao **A1 cso**

Answer: 0.030

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