SET 1: GCSE MATHS – Rounding, Estimation, and Bounds

1. Round 4562.74 to the nearest 10.

2. Round 317.2989 to the nearest 0.01.

3. Round 7495.15 to the nearest 100.

4. Round 823.60 to the nearest integer.

5. Round 1398.509 to the nearest 0.01.

6. Round 2888.12 to the nearest 100.

7. Round 612.47 to the nearest 10.

8. Round 9581.32 to the nearest integer.

9. Round 4264.214 to the nearest 0.01.

10. Round 6051.99 to the nearest 10.

11. Round 3899.726 to the nearest 0.01.

12. Round 1874.30 to the nearest 100.

13. Round 7220.53 to the nearest 10.

14. Round 4004.884 to the nearest 0.01.

15. Round 2547.493 to the nearest 0.01.

16. Round 9241.16 to the nearest 100.

17. Round 1128.98 to the nearest integer.

18. Round 2651.10 to the nearest integer.

19. Round 1507.52 to the nearest 10.

20. Round 2307.28 to the nearest integer.

21. Round 4166.34 to the nearest 100.

22. Round 7204.15 to the nearest 10.

23. Round 889.2504 to the nearest 0.01.

24. Round 3192.981 to the nearest 0.01.

25. Round 4043.17 to the nearest 100.

26. Estimate: 193.12 + 62.47

27. Estimate: 128.47 + 118.99

28. Estimate: 158.12 × 67.61

29. Estimate: 288.54 ÷ 23.12

30. Estimate: 388.84 × 29.54

31. Estimate: 151.79 + 46.33

32. Estimate: 130.82 × 50.14

33. Estimate: 433.31 ÷ 24.21

34. Estimate: 276.05 - 35.82

35. Estimate: 172.99 × 30.72

36. Estimate: 119.50 + 37.62

37. Estimate: 395.35 × 42.09

38. Estimate: 262.73 - 58.88

39. Estimate: 435.10 ÷ 23.24

40. Estimate: 224.62 + 12.41

41. Give the error bounds for 8450 rounded to the nearest 10.

42. Give the error bounds for 7810 rounded to the nearest 100.

43. Give the error bounds for 579 rounded to the nearest 1.

44. Give the error bounds for 4117.90 rounded to the nearest 0.1.

45. Give the error bounds for 5417 rounded to the nearest 10.

46. Give the error bounds for 1261.40 rounded to the nearest 0.1.

47. Give the error bounds for 1511 rounded to the nearest 100.

48. Give the error bounds for 2583.80 rounded to the nearest 0.1.

49. Give the error bounds for 8050 rounded to the nearest 10.

50. Give the error bounds for 871.80 rounded to the nearest 0.1.

SET 2: GCSE Maths – Rounding, Estimation, and Bounds

Practice questions are designed to challenge your estimation, bounds, and significant figure rounding skills. No answers are included.

1. Round 0.03862 to two significant figures.

2. Round 9876.53 to three significant figures.

3. Round 3.47812 to one decimal place.

4. Round 0.091237 to three significant figures.

5. Write 504,891 correct to one significant figure.

6. Round 179.65 to one decimal place.

7. Round 45,692 to the nearest thousand.

8. Round 0.2654 to two significant figures.

9. Round 51.009 to three decimal places.

10. Write 0.008732 correct to two significant figures.

11. Round 4209.076 to one decimal place.

12. Round 0.12345 to three significant figures.

13. Round 678.995 to two decimal places.

14. Round 0.50049 to three significant figures.

15. Give the lower and upper bounds for 97.8 rounded to the nearest tenth.

16. Give the lower and upper bounds for 652 rounded to the nearest unit.

17. Give the lower and upper bounds for 3297 rounded to the nearest hundred.

18. Give the lower and upper bounds for 9.733, rounded to two decimal places.

19. Give the lower and upper bounds for 0.0039 rounded to three significant figures.

20. Estimate: (5.97 × 0.842) ÷ 19.23, rounding all numbers to one significant figure.

21. Estimate: (98.3 + 46.7) × 2.74, rounding all numbers to one significant figure.

22. Estimate: (0.049 × 241) ÷ 5.23, rounding all numbers to one significant figure.

23. Estimate: (7.865 - 3.288) × 10.90, rounding all numbers to one significant figure.

24. Estimate: (68.47 ÷ 13.62) + 4.092, rounding all numbers to one significant figure.

25. Estimate the square root of 178, using suitable nearby square numbers.

26. Estimate the cube root of 592, using nearby cube numbers.

27. Find the lower and upper bounds for 5.84 m measured to the nearest cm.

28. Find the lower and upper bounds for 427 g measured to the nearest 10 g.

29. Find the error interval for a value given as 0.7295 (rounded to 3 decimal places).

30. Calculate the maximum possible value of the sum if a = 3.2 (rounded to nearest 0.1) and b = 4.7 (rounded to nearest 0.1).

31. Calculate the minimum possible value of the difference if c = 6.5 (rounded to nearest 0.1) and d = 2.1 (rounded to nearest 0.1).

32. A bag weighs 1.43 kg to the nearest 0.01 kg. State the error interval for its weight.

33. Find the maximum possible product of two measurements: 12.0 cm and 7.3 cm, each rounded to the nearest 0.1 cm.

34. Find the minimum possible quotient for measurements: numerator 25.9, denominator 4.8, both rounded to the nearest 0.1.

35. Identify if the estimation is an underestimate or overestimate: Estimate the value of $\sqrt{45}$ by using $\sqrt{49}$.

36. Identify if the estimation is an underestimate or overestimate: Estimate the value of $\sqrt{20}$ by using $\sqrt{16}$.

37. The answer to a calculation is 245.78 but each term was rounded to one significant figure; explain how this impacts the final result's accuracy.

38. Work out an estimate for $\frac{18.23 + 9.46}{0.097 \times 8.93}$ by rounding to one significant figure.

39. Estimate the total cost for buying 197 pens at 87p each by rounding numbers appropriately. Make sure to give the units.

40. Estimate the answer to $41.75 - 13.69 + 8.01$ by rounding each number to one significant figure.

41. A plank is measured as 2.43 m to the nearest cm. What is the least and greatest possible length of the plank?

42. Given a box weighs 623 g to the nearest 5 g, state its error bounds.

43. Write the error interval for 7.42, rounded to the nearest hundredth (0.01).

44. The calculated area of a rectangle is 142.66 cm^2. Both sides were measured to the nearest 0.1 cm. What is the possible range for the true area?

45. If a value is rounded to two decimal places as 3.29, write its error interval using inequality notation.

46. Estimate the value of $15.2 \times 2.99 \div 0.493$ by appropriate rounding.

47. Estimate: (0.678 ÷ 0.057) × 9.34 with suitable rounding.

48. Estimate the answer to $8141 \div 42.9$ by rounding appropriately.

49. Estimate the total combined weight of 38 apples, each weighing 0.172 kg, by rounding appropriately.

50. The perimeter of a square is calculated as 38.80 cm. Each side was measured to the nearest 0.05 cm. What could be the actual range for the perimeter?

SET 3: GCSE Maths – Rounding, Estimation, and Bounds .

1. Round 0.0042769 to three significant figures.

2. Round 78,254 to two significant figures.

3. Round 0.04682 to one significant figure.

4. Round 597.877 to two decimal places.

5. Write 0.96979 to three decimal places.

6. Round 3759.5 to the nearest 100.

7. Round 309.92 to the nearest 10.

8. Round 32075.574 to the nearest unit.

9. Round 0.078326 to two significant figures.

10. Write 0.009824 correct to two significant figures.

11. Round 5438.281 to two decimal places.

12. Round 99.499 to the nearest integer.

13. Write 302,814 correct to the nearest 1,000.

14. Write 8.5791 to three significant figures.

15. Give the lower and upper bounds for 18.04 rounded to the nearest hundredth.

16. Give the lower and upper bounds for 4687 rounded to the nearest 10.

17. Give the lower and upper bounds for 8500 rounded to two significant figures.

18. Give the lower and upper bounds for 62.8 rounded to the nearest integer.

19. Give the error interval for 0.0679 rounded to three decimal places.

20. A length is measured as 19.50 cm to the nearest 0.05 cm. Write the possible range for the actual length.

21. Estimate: $249.7 \div 8.36$ by rounding each number to one significant figure first.

22. Estimate: 4.92×0.0836 by rounding each number to one significant figure.

23. A shop orders 476 pencils costing 29p each. Use estimation to find the total cost in pounds.

24. Estimate the value of $\sqrt{180}$ to the nearest integer using suitable square numbers.

25. Estimate the value of $\sqrt{330}$ by using appropriate nearby square numbers.

26. Estimate: $53.82 + 7.09 - 42.67$ by rounding to one significant figure.

27. Estimate: 0.249×3.94 by rounding both numbers to one significant figure.

28. Calculate the maximum possible sum of $a = 10.6$ (rounded to 1 dp) and $b = 71.8$ (rounded to 1 dp). Give your answer to one decimal place.

29. Calculate the minimum possible product of $x = 4.3$ and $y = 2.2$, both measured to the nearest 0.1. Give your answer to 2 decimal places.

30. A box of screws is said to weigh 2.47 kg to the nearest 0.01 kg. Write its possible error interval.

31. If an answer calculated is 1.1342 but all values in the calculation were rounded to one significant figure, discuss the accuracy of this result.

32. Is the following estimation an overestimate or underestimate?
Estimate $\sqrt{35}$ by using $\sqrt{36}$.

33. Is estimating $\sqrt{27}$ with $\sqrt{25}$ an overestimate or underestimate?

34. A recipe uses 125.0g of sugar, rounded to the nearest 0.1g. Write the error interval for the real amount used.

35. A ribbon measures 4.235m to the nearest 0.005m. Give bounds for the real length.

36. Estimate $(62.4 \div 8.6) + 1.9$ by rounding numbers to one significant figure.

37. Estimate $(9.87 - 3.09) \times 2.22$ by rounding numbers to one significant figure.

38. Estimate (381×0.097) by rounding each number to one significant figure.

39. Estimate $1281 + 397 + 52.8$ by appropriate rounding.

40. Estimate 0.0265×409 by rounding suitably.

41. A value is 4.57 rounded to the nearest 0.01. What is the error interval?

42. A time is 17.3 seconds measured to the nearest 0.1 second. State the lower and upper bounds for the actual time.

43. Which is a better estimate for $\sqrt{50}$: $\sqrt{49}$ or $\sqrt{64}$? Give reasons.

44. Work out an estimate for $\frac{604 \times 59}{31}$ by rounding all numbers to one significant figure.

45. Estimate the number of sweets that can be bought for £8.50 if each sweet costs 33p (to the nearest 10p). Explain your reasoning.

46. Estimate: 349.8 ÷ 16.89 by rounding to one significant figure.

47. Estimate the value of 0.024 × 0.0038 by rounding numbers suitably.

48. Estimate 2134 ÷ 58.7 by rounding both numbers suitably.

49. A pack of cheese weighs 0.984 kg to the nearest gram. Write the interval in which the actual weight lies.

50. Explain why rounding to one significant figure is useful for estimation in complex calculations.

SET 4: GCSE Maths – Rounding, Estimation, and Bounds

1. Round 0.00718495 to four significant figures.

2. Round 534,829 to three significant figures.

3. Round 0.091623 to two significant figures.

4. Round 8754.9981 to one decimal place.

5. Write 1.39782 to three decimal places.

6. Round 4829.6 to the nearest thousand.

7. Round 0.039471 to three significant figures.

8. Round 45,682.72 to the nearest hundred.

9. Round 0.82715 to two significant figures.

10. Write 0.004872 correct to three significant figures.

11. Round 16284.239 to two decimal places.

12. Round 99.996 to the nearest integer.

13. Write 503,981 correct to the nearest ten thousand.

14. Write 7.93192 to four significant figures.

15. Give the lower and upper bounds for 0.384 rounded to three decimal places.

16. Give the lower and upper bounds for 6749 rounded to the nearest hundred.

17. Give the lower and upper bounds for 567,000 rounded to two significant figures.

18. Give the lower and upper bounds for 88.3 rounded to the nearest tenth.

19. Give the error interval for 0.00429 rounded to four decimal places.

20. A cable is measured as 24.950 m to the nearest 0.01 m. Write the possible range.

21. Estimate: $ 318.6 \div 7.44 $ by rounding numbers to one significant figure.

22. Estimate: $ 3.278 \times 0.0862 $ by rounding numbers to one significant figure.

23. Estimate total cost if 367 pens cost 68p each; use estimation and give units.

24. Estimate the value of $ \sqrt{118} $ using nearest square numbers.

25. Estimate the value of $ \sqrt{415} $ using square numbers for bounds.

26. Estimate: $ 98.22 + 17.39 - 69.87 $ by rounding appropriately.

27. Estimate: $ 0.579 \times 5.74 $ using one significant figure in each factor.

28. Calculate maximum possible sum for $ u = 13.8 $ and $ v = 51.9 $, both rounded to nearest 0.1.

29. Calculate minimum possible product for $ p = 5.4 $ and $ q = 1.9 $, both to nearest 0.1.

30. A parcel's mass is 14.32 kg to the nearest 0.01 kg. Write its error interval.

31. Why is the result of a calculation only as accurate as the least accurate measurement?

32. Is estimating $ \sqrt{59} $ with $ \sqrt{64} $ an overestimate or underestimate?

33. Is estimating $ \sqrt{86} $ with $ \sqrt{81} $ an overestimate or underestimate?

34. A bag of flour weighs 873.5g to nearest 0.5g. Write error interval.

35. A stick is 2.395m measured to nearest 0.005m. What are its bounds?

36. Estimate $ (58.2 \div 7.9) + 3.4 $ by rounding to one significant figure.

37. Estimate $ (8.73 - 2.14) \times 2.65 $ by rounding to one significant figure.

38. Estimate $ 1292 \times 0.0367 $ by rounding to appropriate sig figs.

39. Estimate $ 798 + 432 + 95.1 $ by rounding appropriately.

40. Estimate $ 0.0198 \times 319 $ by rounding appropriately.

41. A value is 6.929 rounded to the nearest 0.01. State error interval.

42. A travel time is 2.5 hours measured to nearest 0.1 hour. State its bounds.

43. Which is a better estimate for $ \sqrt{115} $: $ \sqrt{121} $ or $ \sqrt{100} $? Explain your reasoning.

44. Estimate $ \frac{783 \times 18}{91} $ rounding all numbers to one sig fig.

45. Estimate how many books can be bought for £42 if each costs £7.49 (rounded to nearest £1). Explain your method.

46. Estimate: $ 598.4 \div 13.21 $ by rounding each to one significant figure.

47. Estimate the value of $ 0.019 \times 0.0873 $.

48. Estimate $ 3728 \div 82.6 $ by rounding to suitable values.

49. A cheese block weighs 1.867 kg to the nearest gram. Write error interval for its weight.

50. Why is it dangerous to round small denominators to zero in estimation?

SET 5: GCSE Maths – Rounding, Estimation, and Bounds

1. Round 0.0025871 to three significant figures.

2. Round 651,392 to two significant figures.

3. Round 0.078563 to two significant figures.

4. Round 98,272.999 to the nearest hundred.

5. Write 4.381295 to four decimal places.

6. Round 5193.826 to the nearest thousand.

7. Round 0.0659142 to three significant figures.

8. Round 72,612.429 to the nearest thousand.

9. Round 0.298428 to one significant figure.

10. Write 0.006238 correct to two significant figures.

11. Round 16724.8372 to three decimal places.

12. Round 389.995 to the nearest integer.

13. Write 930,141 correct to the nearest ten thousand.

14. Write 6.284592 to four significant figures.

15. Round 0.8437 to two decimal places.

16. Round 16,738 to three significant figures.

17. Round 235,000 to two significant figures.

18. Round 108.47 to one decimal place.

19. Give the error interval for 0.0251 rounded to three decimal places.

20. A ladder is measured as 7.855m to the nearest 0.005m. State the possible range.

21. Estimate: $ 543.7 \div 8.14 $ by rounding to one significant figure.

22. Estimate: $ 6.929 \times 0.0917 $ by rounding each to one sig fig.

23. Estimate total cost if 481 books cost £21 each; use estimation and state units.

24. Estimate $ \sqrt{130} $ using nearby square numbers.

25. Estimate $ \sqrt{798} $ using appropriate square bounds.

26. Estimate $ 91.37 + 19.47 - 58.99 $ by rounding each to one significant figure.

27. Estimate $ 0.973 \times 5.68 $ by rounding suitably.

28. Calculate maximum possible sum for $ h = 15.4 $ and $ k = 27.9 $, both to nearest 0.1.

29. Calculate minimum product of $ r = 5.7 $ and $ s = 2.5 $, both to nearest 0.1.

30. A package weighs 3.86 kg to nearest 0.01 kg. Write its error interval.

31. Why can you never be more accurate than your least precise measurement?

32. Is estimating $ \sqrt{58} $ with $ \sqrt{64} $ an overestimate or underestimate?

33. Is estimating $ \sqrt{93} $ with $ \sqrt{81} $ an overestimate or underestimate?

34. A bag of potatoes weighs 2.45 kg to nearest 0.05 kg. Give error interval.

35. A plank measures 3.765m to nearest 0.005m. State bounds.

36. Estimate $ (75.2 \div 8.9) + 2.8 $ by rounding to one sig fig.

37. Estimate $ (4.87 \times 6.19) - 2.04 $ by rounding numbers appropriately.

38. Estimate $ 1682 \times 0.049 $ by rounding to one significant figure.

39. Estimate $ 789 + 425 + 81.4 $ with suitable rounding.

40. Estimate $ 0.0128 \times 259 $ by rounding both numbers.

41. A value is 3.846 rounded to nearest 0.01. State error interval.

42. A race time is 42.6 seconds measured to nearest 0.1 s. State bounds.

43. Which is a better estimate for $ \sqrt{195} $: $ \sqrt{196} $ or $ \sqrt{225} $? Explain briefly.

44. Estimate $ \frac{987 \times 31}{125} $ with all numbers rounded to one sig fig.

45. Estimate how many calculators can you buy for £124 if each costs £19.90, rounded to nearest £1. Explain.

46. Estimate: $ 978.2 \div 15.21 $ rounding each.

47. Estimate $ 0.0194 \times 0.0873 $ rounding both numbers.

48. Estimate $ 3958 \div 81.6 $ rounding appropriately.

49. A cheese block weighs 1.846 kg to nearest gram. State error interval.

50. Why is it dangerous to round small denominator values to zero?

51. Round 0.0096451 to two significant figures.

52. Round 98,162.754 to three significant figures.

53. Round 0.117963 to three significant figures.

54. Round 6792.999 to nearest ten.

55. Write 8.0217954 to four decimal places.

56. Round 4639.823 to the nearest hundred.

57. Round 0.0648212 to two significant figures.

58. Round 81,211.245 to the nearest thousand.

59. Round 0.19828 to one significant figure.

60. Write 0.002918 correct to two significant figures.

61. Round 6924.8328 to three decimal places.

62. Round 989.995 to the nearest integer.

63. Write 670,123 correct to the nearest ten thousand.

64. Write 5.842592 to four significant figures.

65. Round 0.6437 to two decimal places.

66. Round 19,124 to three significant figures.

67. Round 485,000 to two significant figures.

68. Round 209.32 to one decimal place.

69. Give the error interval for 0.0173 rounded to three decimal places.

70. A cable is measured as 11.435m to nearest 0.005m. Give bounds.

71. Estimate: $ 436.7 \div 9.64 $ rounding numbers.

72. Estimate $ 7.929 \times 0.0912 $ rounding appropriately.

73. Estimate the total cost if 598 eggs cost £6.25 per carton, using estimation.

74. Estimate $ \sqrt{300} $ using nearby square numbers.

75. Estimate $ \sqrt{122} $ using square bounds.

76. Estimate $ 83.56 + 21.49 - 63.96 $ rounding each number appropriately.

77. Estimate $ 0.893 \times 4.58 $ using one sig fig.

78. What is the maximum possible sum for $ m = 9.8 $ and $ n = 51.4 $, both to the nearest 0.1?

79. What is the minimum possible product for $ x = 6.4 $ and $ y = 3.3 $, each to the nearest 0.1?

80. A crate's mass is 5.64 kg to nearest 0.01 kg. Write error interval.

81. Why does the accuracy of input values limit your calculation accuracy?

82. Is estimating $ \sqrt{72} $ with $ \sqrt{81} $ an overestimate or underestimate?

83. Is estimating $ \sqrt{17} $ with $ \sqrt{16} $ an overestimate or underestimate?

84. A parcel weighs 8.15 kg to nearest 0.05 kg. Give bounds.

85. A stick measures 7.455m to nearest 0.005m. State bounds for real length.

86. Estimate $ (42.4 \div 6.9) + 4.4 $ rounding numbers suitably.

87. Estimate $ (5.17 \times 7.92) - 3.01 $ rounding appropriately.

88. Estimate $ 1182 \times 0.053 $ rounding both numbers.

89. Estimate $ 988 + 276 + 171.8 $ with suitable rounding.

90. Estimate $ 0.0268 \times 239 $ rounding appropriately.

91. A value is 8.276 rounded to the nearest 0.01. State error interval.

92. A race time is 13.6 seconds to the nearest 0.1 s. State bounds.

93. Which is a better estimate for $ \sqrt{305} $: $ \sqrt{289} $ or $ \sqrt{324} $? Briefly explain.

94. Estimate $ \frac{1023 \times 24}{110} $ rounding to one sig fig.

95. Estimate how many rulers you can buy for £65 if each costs £8.40 (rounded to nearest £1). Explain.

96. Estimate $745.2 \div 12.61$ rounding to one significant figure.

97. Estimate 0.024×0.0621 rounding values suitably.

98. Estimate $2548 \div 78.6$ rounding as needed.

99. A pack of rice weighs 2.861 kg to nearest gram. Write error interval.

100.   Why does rounding affect final estimation in multi-step calculations?

SET 6: GCSE Maths – Rounding, Estimation & Bounds

1.   Round 0.0038615 to three significant figures.

2.   Round 847,283 to two significant figures.

3.   Round 0.089573 to two significant figures.

4.   Round 42,739.891 to the nearest hundred.

5.   Write 5.618297 to four decimal places.

6.   Round 2819.512 to the nearest thousand.

7.   Round 0.057842 to three significant figures.

8.   Round 68,217.359 to the nearest thousand.

9.   Round 0.528421 to one significant figure.

10. Write 0.005198 correct to two significant figures.

11. Round 13724.2831 to three decimal places.

12. Round 799.995 to the nearest integer.

13. Write 643,291 correct to the nearest ten thousand.

14. Write 4.897138 to four significant figures.

15. Round 0.4197 to two decimal places.

16. Round 47,103 to three significant figures.

17. Round 328,000 to two significant figures.

18. Round 67.82 to one decimal place.

19. Give the error interval for 0.0329 rounded to three decimal places.

20. A stick is measured as 8.455m to the nearest 0.005m. State the possible range.

21. Estimate: $ 728.9 \div 7.82 $ by rounding to one significant figure.

22. Estimate: $ 7.864 \times 0.1231 $ by rounding to one significant figure.

23. Estimate total cost if 764 apples cost 13p each; use estimation and state units.

24. Estimate $ \sqrt{175} $ using nearby square numbers.

25. Estimate $ \sqrt{845} $ using appropriate square bounds.

26. Estimate $ 105.28 + 26.35 - 80.99 $ by rounding each to one significant figure.

27. Estimate $ 0.893 \times 4.81 $ by rounding suitably.

28. Calculate maximum possible sum for $ h = 13.9 $ and $ k = 39.8 $, both to nearest 0.1.

29. Calculate minimum product of $ r = 7.6 $ and $ s = 3.7 $, both to nearest 0.1.

30. A package weighs 6.47 kg to nearest 0.01 kg. Write error interval.

31. In calculations, why can the final answer not be more accurate than the least accurate input?

32. Is estimating $ \sqrt{87} $ with $ \sqrt{81} $ an overestimate or underestimate?

33. Is estimating $ \sqrt{115} $ with $ \sqrt{121} $ an overestimate or underestimate?

34. A bag weighs 2.90 kg to nearest 0.05 kg. Give error interval.

35. A rod is measured as 5.898m to nearest 0.002m. State bounds.

36. Estimate $ (66.8 \div 8.2) + 3.5 $ by rounding to one sig fig.

37. Estimate $ (6.38 \times 9.57) - 2.91 $ by rounding numbers appropriately.

38. Estimate $ 2134 \times 0.064 $ by rounding to one significant figure.

39. Estimate $ 614 + 325 + 78.9 $ with suitable rounding.

40. Estimate $ 0.0286 \times 219 $ by rounding both numbers.

41. A value is 7.624 rounded to nearest 0.01. State error interval.

42. A swimming time is 33.6 seconds measured to nearest 0.1 s. State bounds.

43. Which is a better estimate for $ \sqrt{148} $: $ \sqrt{144} $ or $ \sqrt{169} $? Briefly explain.

44. Estimate $ \frac{763 \times 27}{120} $ with all numbers rounded to one sig fig.

45. Estimate how many backpacks you can buy for £80 if each costs £9.90, rounded to nearest £1. Explain.

46. Estimate: $ 837.2 \div 13.12 $ rounding each.

47. Estimate $ 0.0184 \times 0.0975 $ rounding both numbers.

48. Estimate $ 4617 \div 81.2 $ rounding appropriately.

49. A cheese block weighs 2.375 kg to nearest gram. State error interval.

50. Why is it dangerous to round very small denominators to zero?

51. Round 0.0076952 to two significant figures.

52. Round 78,194.463 to three significant figures.

53. Round 0.212928 to three significant figures.

54. Round 4836.999 to nearest ten.

55. Write 4.912157 to four decimal places.

56. Round 2197.358 to the nearest hundred.

57. Round 0.045421 to two significant figures.

58. Round 73,181.245 to the nearest thousand.

59. Round 0.14892 to one significant figure.

60. Write 0.007418 correct to two significant figures.

61. Round 6382.4318 to three decimal places.

62. Round 990.995 to the nearest integer.

63. Write 780,153 correct to the nearest ten thousand.

64. Write 3.485912 to four significant figures.

65. Round 0.9487 to two decimal places.

66. Round 21,147 to three significant figures.

67. Round 431,000 to two significant figures.

68. Round 106.82 to one decimal place.

69. Give the error interval for 0.0189 rounded to three decimal places.

70. A cord is measured as 16.435m to nearest 0.005m. Give bounds.

71. Estimate: $ 236.9 \div 6.41 $ rounding numbers.

72. Estimate $ 6.892 \times 0.0771 $ rounding appropriately.

73. Estimate the total cost if 802 balls cost £8.15 each, using estimation.

74. Estimate $ \sqrt{350} $ using nearby square numbers.

75. Estimate $ \sqrt{262} $ using appropriate square bounds.

76. Estimate $ 91.19 + 44.89 - 75.91 $ rounding each number appropriately.

77. Estimate $ 1.013 \times 6.78 $ using one sig fig.

78. What is the maximum possible sum for $ p = 22.3 $ and $ q = 16.8 $, both to the nearest 0.1?

79. What is the minimum possible product for $ x = 7.3 $ and $ y = 3.4 $, each to the nearest 0.1?

80. A crate's mass is 4.32 kg to nearest 0.01 kg. Write error interval.

81. Why does the accuracy of input values limit calculation accuracy?

82. Is estimating $ \sqrt{72} $ with $ \sqrt{81} $ an overestimate or underestimate?

83. Is estimating $ \sqrt{50} $ with $ \sqrt{49} $ an overestimate or underestimate?

84. A bag weighs 7.05 kg to nearest 0.05 kg. Give bounds.

85. A pole measures 8.698m to nearest 0.002m. State bounds for real length.

86. Estimate $ (38.2 \div 7.1) + 2.9 $ rounding numbers suitably.

87. Estimate $ (5.02 \times 8.91) - 2.19 $ rounding appropriately.

88. Estimate $ 1862 \times 0.059 $ rounding both numbers.

89. Estimate $ 988 + 206 + 111.3 $ with suitable rounding.

90. Estimate $ 0.0298 \times 329 $ rounding appropriately.

91. A value is 2.986 rounded to the nearest 0.01. State error interval.

92. A lap time is 63.8 seconds to the nearest 0.1 s. State bounds.

93. Which is a better estimate for $ \sqrt{420} $: $ \sqrt{400} $ or $ \sqrt{441} $? Briefly explain.

94. Estimate $ \frac{1232 \times 26}{130} $ rounding to one sig fig.

95. Estimate how many pens you can buy for £41 if each costs £5.50 (rounded to nearest £1). Explain.

96. Estimate $ 524.2 \div 10.61 $ rounding to one significant figure.

97. Estimate $ 0.021 \times 0.0813 $ rounding suitably.

98. Estimate $ 2598 \div 68.3 $ rounding as needed.

99. A pack weighs 3.651 kg to nearest gram. Write error interval.

100.   How does rounding affect multi-step calculations in estimation?

SET 7: GCSE Maths – Rounding, Estimation & Bounds

1. Round 0.0029417 to three significant figures.

2. Round 729,483 to two significant figures.

3. Round 0.089286 to two significant figures.

4. Round 31,867.591 to the nearest hundred.

5. Write 5.297613 to four decimal places.

6. Round 4951.798 to the nearest thousand.

7. Round 0.0531792 to three significant figures.

8. Round 45,283.219 to the nearest thousand.

9. Round 0.348421 to one significant figure.

10. Write 0.007682 correct to two significant figures.

11. Round 13241.1083 to three decimal places.

12. Round 699.995 to the nearest integer.

13. Write 594,612 correct to the nearest ten thousand.

14. Write 4.817348 to four significant figures.

15. Round 0.5713 to two decimal places.

16. Round 54,203 to three significant figures.

17. Round 326,000 to two significant figures.

18. Round 83.41 to one decimal place.

19. Give the error interval for 0.0436 rounded to three decimal places.

20. A stick is measured as 7.425m to the nearest 0.005m. State the possible range.

21. Estimate: $ 483.4 \div 6.87 $ by rounding to one significant figure.

22. Estimate: $ 5.814 \times 0.1723 $ by rounding to one significant figure.

23. Estimate total cost if 462 oranges cost 27p each; use estimation and state units.

24. Estimate $ \sqrt{163} $ using nearby square numbers.

25. Estimate $ \sqrt{765} $ using appropriate square bounds.

26. Estimate $ 117.54 + 39.18 - 88.99 $ by rounding each to one significant figure.

27. Estimate $ 1.154 \times 4.15 $ by rounding suitably.

28. Calculate maximum possible sum for $ x = 14.8 $ and $ y = 28.5 $, both to nearest 0.1.

29. Calculate minimum product of $ m = 9.8 $ and $ n = 2.5 $, both to nearest 0.1.

30. A parcel is 5.73 kg to nearest 0.01 kg. Write its error interval.

31. In calculations, why can the final answer not be more accurate than the least precise input?

32. Is estimating $ \sqrt{68} $ with $ \sqrt{64} $ an overestimate or underestimate?

33. Is estimating $ \sqrt{123} $ with $ \sqrt{121} $ an overestimate or underestimate?

34. A bag weighs 3.85 kg to nearest 0.05 kg. Give error interval.

35. A plank is measured as 4.647m to nearest 0.002m. State bounds.

36. Estimate $ (59.8 \div 6.2) + 4.5 $ by rounding to one sig fig.

37. Estimate $ (5.24 \times 5.94) - 2.11 $ by rounding numbers appropriately.

38. Estimate $ 1223 \times 0.071 $ by rounding.

39. Estimate $ 417 + 231 + 145.2 $ by appropriate rounding.

40. Estimate $ 0.0154 \times 147 $ by rounding both numbers.

41. A value is 5.394 rounded to nearest 0.01. State error interval.

42. A swimming time is 73.8 seconds measured to nearest 0.1 s. State bounds.

43. Which is a better estimate for $ \sqrt{340} $: $ \sqrt{324} $ or $ \sqrt{361} $? Briefly explain.

44. Estimate $ \frac{473 \times 29}{113} $ with all numbers rounded to one sig fig.

45. Estimate how many bags can you buy for £135 if each costs £15.60, rounded to nearest £1. Explain.

46. Estimate: $ 315.7 \div 9.27 $ rounding each.

47. Estimate $ 0.0245 \times 0.0826 $ rounding both numbers.

48. Estimate $ 3412 \div 71.9 $ rounding appropriately.

49. A cheese block is 1.784 kg to nearest gram. State error interval.

50. Why is it dangerous to round very small denominators to zero?

51. Round 0.0086713 to two significant figures.

52. Round 67,381.453 to three significant figures.

53. Round 0.198294 to three significant figures.

54. Round 2745.999 to nearest ten.

55. Write 8.613219 to four decimal places.

56. Round 3597.892 to the nearest hundred.

57. Round 0.045293 to two significant figures.

58. Round 65,736.948 to the nearest thousand.

59. Round 0.09825 to one significant figure.

60. Write 0.004294 correct to two significant figures.

61. Round 5197.9832 to three decimal places.

62. Round 433.995 to the nearest integer.

63. Write 584,712 correct to the nearest ten thousand.

64. Write 7.395812 to four significant figures.

65. Round 0.9784 to two decimal places.

66. Round 22,947 to three significant figures.

67. Round 493,000 to two significant figures.

68. Round 111.29 to one decimal place.

69. Give the error interval for 0.0139 rounded to three decimal places.

70. A cable is 13.455m to nearest 0.005m. Give bounds.

71. Estimate: $ 537.8 \div 8.19 $ rounding numbers.

72. Estimate $ 6.234 \times 0.0692 $ rounding appropriately.

73. Estimate the total cost if 368 books cost £18.95 each, using estimation.

74. Estimate $ \sqrt{880} $ using nearby square numbers.

75. Estimate $ \sqrt{715} $ using appropriate square bounds.

76. Estimate $ 103.21 + 31.79 - 88.15 $ rounding each number appropriately.

77. Estimate $ 1.271 \times 8.84 $ using one sig fig.

78. Maximum possible sum for $p = 21.7$ and $q = 13.4$, both to nearest 0.1?

79. Minimum possible product for $a = 6.8$ and $b = 2.7$, each to nearest 0.1?

80. A crate is 6.53 kg to nearest 0.01 kg. Write error interval.

81. Why does the accuracy of input values limit calculation accuracy?

82. Is estimating $\sqrt{49}$ with $\sqrt{49}$ an overestimate, underestimate, or exact?

83. Is estimating $\sqrt{35}$ with $\sqrt{36}$ an overestimate or underestimate?

84. A bag is 6.25 kg to nearest 0.05 kg. Give bounds.

85. A rod is 7.989m to nearest 0.002m. State bounds for real length.

86. Estimate $(24.2 \div 4.3) + 6.9$ rounding numbers suitably.

87. Estimate $(3.72 \times 9.29) - 1.18$ rounding appropriately.

88. Estimate 1457×0.048 rounding both numbers.

89. Estimate $588 + 206 + 111.7$ with suitable rounding.

90. Estimate 0.0234×303 rounding appropriately.

91. A value is 3.741 rounded to the nearest 0.01. State error interval.

92. A lap time is 27.8 seconds to the nearest 0.1 s. State bounds.

93. Which is a better estimate for $\sqrt{390}$: $\sqrt{400}$ or $\sqrt{361}$? Briefly explain.

94. Estimate $\frac{962 \times 18}{128}$ rounding to one sig fig.

95. Estimate how many tickets for £26 can you buy for £395 (rounded to nearest £1)? Explain method.

96. Estimate: $225.4 \div 7.04$ rounding to one significant figure.

97. Estimate 0.029×0.0945 rounding suitably.

98. Estimate $2326 \div 84.1$ rounding as needed.

99. A box weighs 4.271 kg to nearest gram. Write error interval.

100. In what way does rounding affect results in multi-step calculations?