

Foundation GCSE: Rounding to Decimal Places

Name: _____

Class: _____

Instructions: Answer all questions. Questions are ordered from easiest (1) to hardest (20). Working out should be shown where appropriate.

1. Round 4.37 to 1 decimal place.
2. Round 8.12 to 1 decimal place.
3. Round 6.58 to 1 decimal place.
4. Round 14.234 to 2 decimal places.
5. Round 7.865 to 2 decimal places.
6. Round 0.092 to 2 decimal places.
7. Round 3.14159 to 3 decimal places.
8. Round 12.987 to 2 decimal places.
9. Round 9.96 to 1 decimal place.
10. Round 0.0058 to 3 decimal places.
11. Write the number 5.496 correct to 2 decimal places.
12. Calculate 3.2×4.5 and give your answer to 1 decimal place.
13. Work out $\frac{17.3}{4.1}$ giving your answer to 2 decimal places.
14. Round 49.95 to 1 decimal place.
15. Evaluate $\sqrt{23}$ and give your answer to 3 decimal places.
16. Calculate $\frac{8.3 + 2.15}{3.04}$ giving your answer to 2 decimal places.
17. Work out 7.1^3 and give your answer to 1 decimal place.
18. Find the value of $\frac{9.81 - \sqrt{15}}{2.05}$ rounded to 2 decimal places.
19. A rectangle has a width of 4.12 cm and a length of 7.85 cm. Calculate its area and give your answer to 2 decimal places.
20. Evaluate $\frac{\sqrt{89.4} + 3.12^2}{5.1 - \sin(1)}$ giving your answer to 3 decimal places (where angle is in radians).

Answers & Worked Solutions

1. 4.4
The second decimal digit is 7 (≥ 5), so round up: 4.4.
2. 8.1
The second decimal digit is 2 (< 5), so round down: 8.1.
3. 6.6
The second decimal digit is 8 (≥ 5), so round up: 6.6.
4. 14.23
The third decimal digit is 4 (< 5), so keep the hundredths digit: 14.23.
5. 7.87
The third decimal digit is 5 (≥ 5), so round up the hundredths digit: 7.87.
6. 0.09
The third decimal digit is 2 (< 5), so keep the hundredths digit: 0.09.
7. 3.142
The fourth decimal digit is 1 (< 5), so keep the thousandths digit: 3.142.
8. 12.99
The third digit is 7, rounding the 8 up to 9: 12.99.
9. 10.0
Rounding up causes a carry into the units column: 10.0.
10. 0.006
The fourth decimal digit is 8 (≥ 5), so round up: 0.006.
11. 5.50
The third digit is 6, rounding up gives 5.50 (keep the trailing zero to show precision).
12. 14.4
 $3.2 \times 4.5 = 14.4$ exactly.
13. 4.22
 $17.3 \div 4.1 = 4.2195\dots$, which rounds to 4.22.
14. 50.0
Rounding 49.95 to 1 decimal place gives 50.0.
15. 4.796
 $\sqrt{23} = 4.795831\dots$, which rounds to 4.796.
16. 3.44
Calculator input: $\frac{8.3 + 2.15}{3.04} = 3.4375\dots$, which rounds to 3.44.
17. 357.9
 $7.1^3 = 357.911$, which rounds to 357.9.
18. 3.09
Calculator input: $\frac{9.81 - \sqrt{15}}{2.05} = 3.0917\dots$, which rounds to 3.09.
19. 32.34 cm²
 $\text{Area} = 4.12 \times 7.85 = 32.342$, rounding to 2 decimal places gives 32.34.
20. 4.506
Calculator input: $\frac{\sqrt{89.4} + 3.12^2}{5.1 - \sin(1)} = 4.5061\dots$, which rounds to 4.506.