1 Measurement and uncertainties

1.1 Measurements in physics

Orders of magnitude

1. State the order of magnitude of each of the following:
   a. 565
   b. 29
   c. 0.000 656
   d. 248 789
   e. 0.1

2. Determine the orders of magnitude in each of the following:
   a. \(43 \div 26 = \)
   b. \(892 \div 16 = \)
   c. \(2555 \div 0.2365 = \)
   d. \(2.23 \times 15.67 = \)
   e. \((1.6 \times 10^4) \times (7.6 \times 10^6) = \)

3. A pile of sand has a width that ranges from 38 m to 41 m and a length that is approximately 125 m. If the depth varies from 8.8 m to 9.1 m, what is the order of magnitude of the volume?

4. 325 pieces of steel, 6.5 cm thick on average, are vertically stacked. What is the order of magnitude of the total thickness?

5. Solve and state the order of magnitude: \(81 \mu m + 96 cm + 21 pm + 148 mm\)