

Subject: Mathematics

Class: 7

Topic: Reading Scales (Weights, Liquids, Temperature, Money)

Levels: Basic, Intermediate, Advanced

Level: Basic

1. A ruler shows marks in cm. What is the value of 5 small divisions if 10 divisions = 1 cm? _____
2. Identify the weight: If the needle is exactly between 2 kg and 3 kg, it is _____ kg.
3. A measuring cylinder has marks every 100 ml. It is half-full between 0 and 1000 ml. Volume = _____ ml.
4. The temperature on a thermometer is 3 marks above 30°C. Each mark is 1°C. Temperature = _____ °C.
5. A weighing scale shows 450 g. How many more grams are needed to make 1 kg? _____ g.
6. Draw a ? on a scale of 0 to 10 to show the position of 7.5: [0__5__10]
7. If a grocery scale starts at 0 and the needle moves to the first big mark '1', it represents 1 _____ (kg/mg).
8. A water bottle has a capacity of 1000 ml. If it is $\frac{1}{4}$ full, the scale reads _____ ml.
9. On a 15 cm ruler, which number comes exactly in the middle of 12 cm and 13 cm? _____ cm.
10. An Indian coin weighing scale shows 20 g for one coin. For 5 coins, it will read _____ g.

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Level: Intermediate

1. A heavy-duty scale has marks every 5 kg. The pointer is at the 3rd mark after 50 kg. Weight = _____ kg.
2. A thermometer shows 37°C . If the temperature rises by 2.5°C , what is the new reading? _____ $^{\circ}\text{C}$.
3. A measuring jar has marks: 200, 400, 600, 800. The liquid is halfway between 400 and 600. Volume = _____ ml.
4. Convert the scale reading: If a digital scale shows 2.5 kg, what is the value in grams? _____ g.
5. A shopkeeper uses a scale where 1 cm on the display = ₹50. If the bar is 4 cm long, the price is ? _____.
6. A protractor is a circular scale. What is the value exactly halfway between 90° and 180° ? _____ $^{\circ}$.
7. A rain gauge shows 12 mm. If it rains 2 mm more every hour for 3 hours, the new scale reading is _____ mm.
8. A map scale says 1 cm = 100 km. If the distance measured is 4.5 cm, the real distance is _____ km.
9. A kitchen scale shows 1200 g. Express this as a decimal in kg: _____ kg.
10. A vertical scale has a total height of 2 meters. If it is divided into 20 equal parts, each part = _____ cm.

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1. A precision scale has 5 divisions between 0 and 1 cm. What is the value of 1 division in mm? _____ mm.
2. A tanker scale shows $\frac{3}{4}$ full. If the total capacity is 4000 liters, the current reading is _____ L.
3. Calculate: A scale reads 5.75 kg. If the empty container weighs 250 g, the actual item weight is _____ kg.
4. A thermometer reads 102°F . If the scale also shows Celsius, where $0^{\circ}\text{C} = 32^{\circ}\text{F}$ and $100^{\circ}\text{C} = 212^{\circ}\text{F}$, estimate the heat level. [?] High [?] Normal
5. A spring balance stretches 2 cm for every 10 kg. If it stretches 7 cm, the weight attached is _____ kg.
6. The price scale shows ₹240 for 1.5 kg of apples. What will the scale show for 500 g? ₹ _____.
7. A screw gauge scale moves 0.5 mm in one full rotation. If it rotates 4.5 times, the distance is _____ mm.
8. A car's fuel gauge is divided into 8 parts. If the tank is 40 L and the needle is at the 5th mark, Volume = _____ L.
9. If π is approximately 3.14, where would you mark π on a linear scale between 3 and 4? _____ (closer to 3 or 4?)
10. Challenge: A digital scale has an error of +0.05 kg. If it reads 12.60 kg, the true weight is _____ kg.