Unit 11 · Weight

HARDER PRACTICE QUESTIONS · ANSWER KEY

Full marks 32

Give the marks for the points in the marking scheme; an answer in other words that says the same is right.

1 A full truck

ANSWER A · 4

Put everything in kg. 5 tonnes = 5 × 1000 = **5000 kg**. 23 quintals 40 kg = 2300 + 40 = **2340 kg**.
Room left: 5000 − 2340 = **2660 kg**.
2660 ÷ 25 = 106, remainder 10 (25 × 106 = 2650). So **106 sacks**. A 107th sack would make the load too heavy.

MARKING SCHEME

- ✓ 5000 kg.
- ✓ 2340 kg.
- ✓ 2660 kg left.
- ✓ 106 sacks.

2 On the balance

ANSWER HA · 4

i. The other pan has 500 g + 200 g = 700 g. Take away the 100 g weight from both sides: 3 apples = 600 g. One apple = 600 ÷ 3 = **200 g**.
ii. 2 × 200 g + 1000 g = 1400 g = **1 kg 400 g**.
iii. 1400 g ÷ 200 g = **7 apples**.

MARKING SCHEME

- ✓ 3 apples weigh 600 g.
- ✓ One apple 200 g.
- ✓ Pumpkin 1 kg 400 g.
- ✓ 7 apples.

3 Work backwards

ANSWER A · 3

i. The bottles alone: 10 kg 200 g − 600 g = 9 kg 1200 g − 600 g = 9 kg 600 g = 9600 g. One bottle: 9600 ÷ 24 = **400 g**.
ii. 18 bottles are left: 400 g × 18 = 7200 g. With the carton: 7200 + 600 = 7800 g = **7 kg 800 g**.

MARKING SCHEME

- ✓ 9 kg 600 g of bottles.
- ✓ 400 g a bottle.
- ✓ 7 kg 800 g.

4 Sensible weights

ANSWER U · 3

i. **60 g**: an egg sits in your hand. ii. **30 kg**: 3 quintals is 300 kg, as much as four or five grown-ups. iii. **25 kg**. iv. **50 quintals**: 50 kg is about one person.
In grams: egg 60 g; student 30 × 1000 = 30,000 g; sack 25,000 g; truck 50 × 100 = 5000 kg = 50,00,000 g.
Order: **egg, sack of rice, student, truck**.

MARKING SCHEME

- ✓ 60 g, 30 kg, 25 kg, 50 quintals.
- ✓ All four in grams.
- ✓ The order, lightest first.

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5 Selling paddy

ANSWER A · 4

i. $3{,}660 \times 4 =$ **Rs. 14,640**.

ii. 75 kg out of 100 kg: $\frac{75}{100} = \frac{3}{4}$ of a quintal.

iii. $\frac{1}{4}$ of Rs. 3,660 is $3{,}660 \div 4 =$ Rs. 915. So $\frac{3}{4}$ is $915 \times 3 =$ **Rs. 2,745**.

iv. $14{,}640 + 2{,}745 =$ **Rs. 17,385**.

(The price is the real one, from the unit. Gyanu is made up.)

MARKING SCHEME

- ✓ Rs. 14,640.
- ✓ $\frac{3}{4}$ of a quintal.
- ✓ Rs. 2,745.
- ✓ Rs. 17,385.

6 Sending a parcel

ANSWER HA · 4

i. 2 kg 150 g = 2150 g. The first 500 g costs Rs. 120. The rest is $2150 - 500 = 1650$ g $= 3 \times 500$ g + 150 g. The 150 g is a part of 500 g, so it counts as a fourth 500 g. $120 + 4 \times 60 =$ **Rs. 360**.

ii. One parcel of 1050 g: 550 g over 500 g, which is 500 g and a part, so 2 lots of Rs. 60. $120 + 120 =$ Rs. 240. Two of them: **Rs. 480**.

Together, 2100 g: 1600 g over, which is 3×500 g and a part, so 4 lots. $120 + 240 =$ **Rs. 360**.

Together is cheaper, by Rs. 120.

MARKING SCHEME

- ✓ 1650 g more, counted as 4 lots.
- ✓ Rs. 360 for 2 kg 150 g.
- ✓ Rs. 480 for two parcels on their own.
- ✓ Rs. 360 together, cheaper by Rs. 120.

7 Sharing a load

ANSWER HA · 3

Karma's load is two equal shares, and each of the others has one share: 4 shares in all.

1 quintal 2 kg = 102 kg. $102 \div 4 = 25$, with 2 kg left over. 2 kg = 2000 g, and $2000 \div 4 = 500$ g. One share is **25 kg 500 g**.

Karma carries 2 shares: 25 kg 500 g $\times 2 =$ 50 kg 1000 g = **51 kg**. The other two carry **25 kg 500 g** each.

Check: 51 kg + 25 kg 500 g + 25 kg 500 g = 102 kg. ✓

MARKING SCHEME

- ✓ 4 equal shares.
- ✓ 25 kg 500 g a share.
- ✓ Karma 51 kg.

8 Rice for lunch

ANSWER A · 3

i. $150 \text{ g} \times 125 = 18{,}750$ g = **18 kg 750 g**.

ii. $750 \text{ g} \times 20 = 15{,}000$ g = 15 kg, and $18 \text{ kg} \times 20 = 360$ kg. $360 + 15 = 375$ kg = **3 quintals 75 kg**.

MARKING SCHEME

- ✓ 18 kg 750 g a day.
- ✓ 375 kg in 20 days.
- ✓ 3 quintals 75 kg.

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9 Think: three weights

ANSWER HA · 4

i. $1 = 1; 2 = 2; 3 = 2 + 1; 4 = 4; 5 = 4 + 1; 6 = 4 + 2; 7 = 4 + 2 + 1$.

ii. With the three weights he can go up to 7 kg. An **8 kg** weight with each of those makes 8 to 15 kg ($8 + 7 = 15$). Each weight is double the one before.

iii. $13 = \mathbf{8 + 4 + 1}$.

MARKING SCHEME

- ✓ 1 kg to 4 kg shown.
- ✓ 5 kg to 7 kg shown.
- ✓ An 8 kg weight.
- ✓ $13 = 8 + 4 + 1$.

Marks by level	Knowledge	Understanding	Application	Higher ability	Total
Marks	0	3	14	15	**32**

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