



# Strauss Preparatory School

Name: Dimeji Olugbodi

Class: Year 5

Date: \_\_\_\_\_

Subject: Math

Learning objective: I can solve problems involving conversion of units of mass.

1. Convert these grams measurements into kilograms, using decimal notation.

|       |       |       |       |      |         |
|-------|-------|-------|-------|------|---------|
| 1354g | 2400g | 3510g | 8495g | 100g | 10 430g |
|       |       |       |       |      |         |

2. Convert these kilogram measurements into grams.

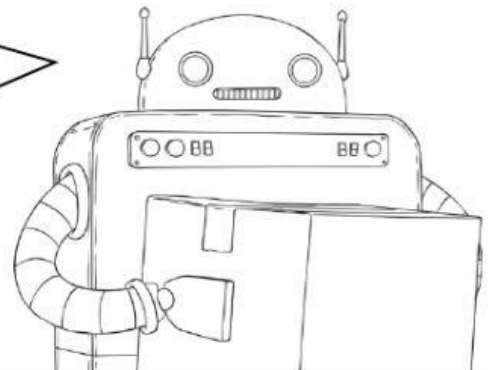
|       |        |         |        |         |       |
|-------|--------|---------|--------|---------|-------|
| 1.2kg | 3.57kg | 1.265kg | 4.13kg | 10.95kg | 0.5kg |
|       |        |         |        |         |       |

3. Shopbot the robot has computed the mass that they think they are able to lift. Are they correct? Explain how you know.

Guidelines:

Robots with a mass of 165kg or greater **and** a height of 170cm or taller can lift boxes up to 20kg.

Robots with a mass less than 165kg **or** a height less than 170cm can lift boxes up to 16kg in mass.



| Name                                                         | ✓ or ×          | Explanation |
|--------------------------------------------------------------|-----------------|-------------|
| <b>Shopbot</b><br>169kg<br>159cm<br>'I can lift up to 16kg.' | Yes<br>or<br>No |             |

4. Shoptimus weighs 170kg and is 175cm tall.

The box packed by Shoptimus contains these items:

Washing powder: 2900g

Fruit: 2.95kg

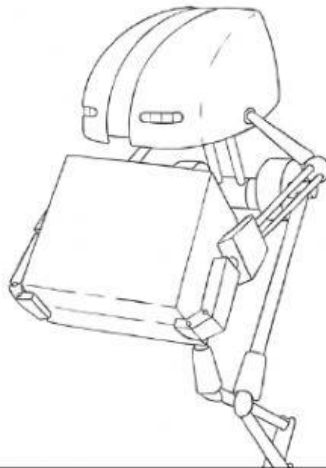
Vegetables: 2.78kg

Tinned items: 4320g

Packets: 2.4kg

Frozen items: 965g

Is Shoptimus strong enough to lift the box? Show how you worked out the answer.



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Robots with a mass less than 165kg **or** a height less than 170cm can lift boxes up to 16kg in mass.

Is Shoptimus able to lift the box? Yes ☐ No ☐

5. Roboshop can lift up to 20kg. After putting these items in a box, Roboshop's internal processor computed that the box was too heavy.

**Roboshop's box contains:**

Sack of potatoes: 3800g

Garden tools: 6.15kg

Fruit: 3.765kg

Vegetables: 2.95kg

Tinned items: 3660g

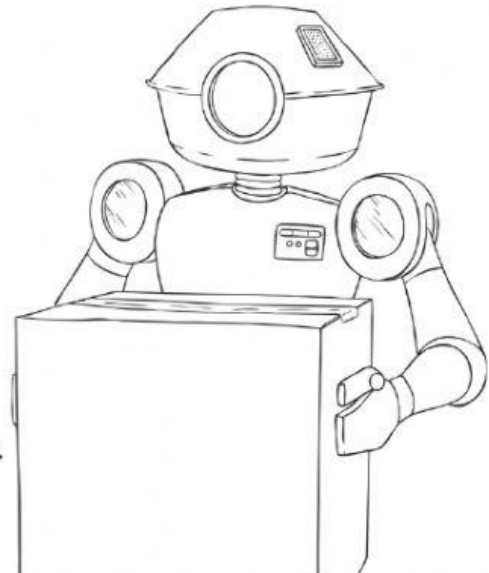
Packets: 1.8kg

Frozen items: 685g

Roboshop takes out the packets and the frozen items.

Does the box now contain a suitable mass?

Show how you worked out the answer.



Is Roboshop able to lift the box? Yes ☐ No ☐