8 (a) The technical data of a car includes the following information. **0580/04/O/N/04**

Type of road	Petrol used per 100 km
Main roads	9.2 litres
Other roads	8.0 litres

(i) How much petrol is used on a journey of 350 km on a main road? [1]

(ii) On other roads, how far can the car travel on 44 litres of petrol? [1]

(iii) A journey consists of 200 km on a main road and 160 km on other roads.

(a) How much petrol is used? [2]

(b) Work out the amount of petrol used per 100 km of this journey. [1]

(b) A model of a car has a scale of 1 : 25.

(i) The length of the car is 3.95 m.
Calculate the length of the model.
Give your answer in centimetres. [3]

(ii) The painted surface area of the model is 128 cm^2.
Calculate the painted surface area of the car, giving your answer in square centimetres. [2]

(iii) The size of the luggage space of the car is 250 litres.
Calculate the size of the luggage space of the model, giving your answer in millilitres. [3]

8(a)(i) 100km → 9·2l
350km → x
$\therefore x = \frac{350 \times 9{\cdot}2}{100} = 32{\cdot}2l$

8(a)(ii) 8l → 100km
44l → x
$x = \frac{44 \times 100}{8} = 550km$

ii) (a) $(2 \times 9{\cdot}2) + (1{\cdot}6 \times 8) = 31{\cdot}2$

(b) $31{\cdot}2 \div 3{\cdot}6 = 8{\cdot}7l$

8(b)(i) 1 : 25
x : 3·95 = 395cm
$\therefore x = \frac{395}{25} = 15{\cdot}8cm$

8(b)(ii) $1cm^2 = 625cm^2$
$128cm^2 = x\,cm^2$
$\therefore x = 128 \times 625$
$= 80000cm^2$

8b(iii) $1m^3 \rightarrow 25^3m^3$
$x \rightarrow 250l$
$x = \frac{250}{25^3} \times 1000 = 16$