



# Percentages

## Question Paper 2

Level	IGCSE
Subject	Maths (0580)
Exam Board	Cambridge International Examinations (CIE)
Paper Type	Extended
Topic	Number
Sub-Topic	Percentages
Booklet	Question Paper 2

**Time Allowed:** 59 minutes

**Score:** /49

**Percentage:** /100

**Grade Boundaries:**

A*	A	B	C	D	E	U
>85%	75%	60%	45%	35%	25%	<25%

- 1 The population of Dubai at the end of 2012 was 2.1 million.  
This was predicted to increase at a rate of 6% each year.

Calculate the predicted population of Dubai at the end of 2015.

*Answer* ..... million [3]

2 (a) A company makes compost by mixing loam, sand and coir in the following ratio.

$$\text{loam : sand : coir} = 7 : 2 : 3$$

(i) How much loam is there in a 72 litre bag of the compost?

Answer(a)(i) ..... litres [2]

(ii) In a small bag of the compost there are 13.5 litres of coir.

How much compost is in a small bag?

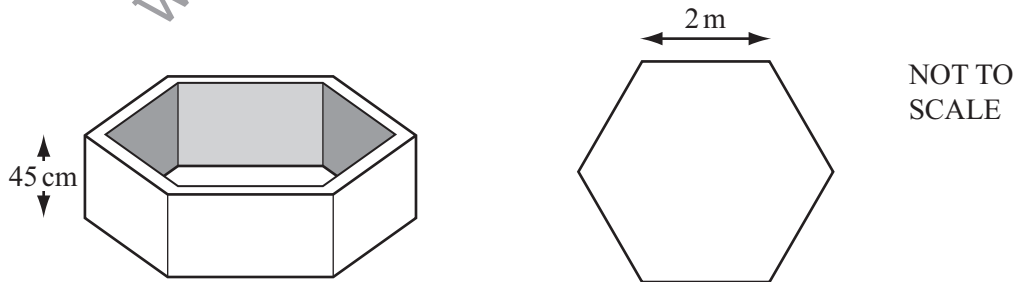
Answer(a)(ii) ..... litres [2]

(iii) The price of a large bag of compost is \$8.40 .  
This is an increase of 12% on the price last year.

Calculate the price last year.

Answer(a)(iii) \$ ..... [3]

(b) Teresa builds a raised garden bed in the shape of a hexagonal prism.



The garden bed has a height of 45 cm.

The cross section of the inside of the garden bed is a regular hexagon of side 2 m.

- (i) Show that the area of the cross section of the inside of the garden bed is  $10.4\text{m}^2$ , correct to 3 significant figures.

*Answer(b)(i)*

[3]

- (ii) Calculate the volume of soil needed to fill the garden bed.

*Answer(b)(ii)* .....  $\text{m}^3$  [2]

- (iii) Teresa wants to fill the garden bed with organic top soil. She sees this advertisement in the local garden centre.

ORGANIC TOP SOIL	Number of tonnes purchased		
	1 to 5	6 to 10	Over 10
Cost per tonne	\$47.00	\$45.50	\$44.00

Organic top soil is sold in one tonne bags.  
 $1\text{m}^3$  of organic top soil has a mass of 1250 kg.

Calculate the cost of the organic top soil needed to fill the garden bed completely.  
[1 tonne = 1000 kg]

*Answer(b)(iii)* \$ ..... [4]

- 3 Anita buys a computer for \$391 in a sale.  
The sale price is 15% less than the original price.

Calculate the original price of the computer.

Answer \$ ..... [3]

- 4 Calculate 17.5% of 44kg.

Answer ..... kg [2]

5 In 2012 the cost of a ticket to an arts festival was \$30.

This was 20% more than the ticket cost in 2011.

Calculate the cost of the ticket in 2011.

*Answer* \$ ..... [3]

- 6 Last year Mukthar earned \$18900 .  
He did not pay tax on \$5500 of his earnings.  
He paid 24% tax on his remaining earnings.

(a) (i) Calculate how much tax Mukthar paid last year.

Answer(a)(i) \$ ..... [2]

(ii) Calculate how much Mukthar earned each month after tax had been paid.

Answer(a)(ii) \$ ..... [2]

(b) This year Mukthar now earns \$19750.50 .

Calculate the percentage increase from \$18900.

Answer(b) ..... % [2]

(c) Mukthar has \$1500 to invest in one of the following ways.

- **Account A** paying **simple** interest at a rate of 4.1% per year
- **Account B** paying **compound** interest at a rate of 3.3% per year

Which account will be worth more after **3 years** and by how much?

- 7 (a) One day, Maria took 27 minutes to walk 1.8 km to school.  
She left home at 0748.

(i) Write down the time Maria arrived at school.

*Answer(a)(i)* ..... [1]

(ii) Show that Maria's average walking speed was 4 km/h.

*Answer(a)(ii)*

[2]

(b) Another day, Maria cycled the 1.8 km to school at an average speed of 15 km/h.

(i) Calculate the percentage **increase** that 15 km/h is on Maria's walking speed of 4 km/h.

*Answer(b)(i)* ..... % [3]

(ii) Calculate the percentage **decrease** that Maria's cycling time is on her walking time of 27 minutes.



- (iii) After school, Maria cycled to her friend's home.  
This took 9 minutes, which was 36% of the time Maria takes to walk to her friend's home.

Calculate the time Maria takes to walk to her friend's home.

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Answer(b)(iii) ..... min [2]