EXAM PAPERS PRACTICE

Percentages

Question Paper 1

Question 1

Robert buys a car for $8000.
At the end of each year the value of the car has decreased by 10% of its value at the beginning of that year.

Calculate the value of the car at the end of 7 years.

[2]

Question 2

Ahmed paid $34 000 for a car.
His car decreased in value by 40% at the end of the first year.
The value at the end of the second year was 10% less than the value at the end of the first year.

Calculate the value of Ahmed's car after 2 years.

[2]

Question 3

Hazel invests $1800 for 7 years at a rate of 1.5% per year compound interest.

Calculate how much interest she will receive after the 7 years.
Give your answer correct to the nearest dollar. [4]

Question 4

Indira buys a television in a sale for $924.
This was a reduction of 12% on the original price. [3]

Calculate the original price of the television.

Question 5

Georg invests $5000 for 14 years at a rate of 2% per year compound interest.

Calculate the interest he receives.
Give your answer correct to the nearest dollar. [4]

Question 6

Amalie makes a profit of 20% when she sells a shirt for $21.60.

Calculate how much Amalie paid for the shirt.

[2]

Question 7

A student played a computer game 500 times and won 370 of these games.
He then won the next x games and lost none.
He has now won 75% of the games he has played.
Find the value of x.

[4]

Question 8

A house was built in 1985 and cost $62 000.
It was sold in 2003 for $310000.

(a) Work out the 1985 price as a percentage of the 2003 price.   [2]

(b) Calculate the percentage increase in the price from 1985 to 2003.   [2]

Question 9

In 1997 the population of China was 1.24×10^9.
In 2002 the population of China was 1.28×10^9.
Calculate the percentage increase from 1997 to 2002.   [2]

Question 10

Abdul invested $240 when the rate of simple interest was r% per year.
After m **months** the interest was $I.
Write down and simplify an expression for I, in terms of m and r. [2]

Question 11

A baby was born with a mass of 3.6 kg.
After three months this mass had increased to 6 kg.
Calculate the percentage increase in the mass of the baby. [2]

Question 12

Write 55 g as a percentage of 2.2 kg. [2]

Question 13

Work out 85 cents as a percentage of $2.03 . [1]

Question 14

From a sample of 80 batteries, 3 are faulty.

Work out the percentage of faulty batteries.

[1]

Question 15

Jasjeet and her brother collect stamps.
When Jasjeet gives her brother 1% of her stamps, she has 2475 stamps left.

Calculate how many stamps Jasjeet had originally. [3]

Question 16

In a sale, the cost of a coat is reduced from $85 to $67.50 .

[3]

Calculate the percentage reduction in the cost of the coat.

Question 17

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.   [3]

Question 18

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.   [3]

Question 19

Calculate 17.5% of 44kg. [2]

Question 20

Emily invests $$x$ at a rate of 3% per year simple interest. [3]
After 5 years she has $20.10 interest.

Find the value of x.

Question 21

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

This was 20% more than the ticket cost in 2011.   [3]

Calculate the cost of the ticket in 2011.

Question 22

The Tiger Sky Tower in Singapore has a viewing capsule which holds 72 people.   [2]
This number is 75% of the population of Singapore when it was founded in 1819.
What was the population of Singapore in 1819?

Question 23

Samantha invests $600 at a rate of 2% per year simple interest.

[2]

Calculate the interest Samantha earns in 8 years.

Question 24

Maria pays $84 rent.
The rent is increased by 5%.

[2]

Calculate Maria's new rent.

Question 25

Shania invests $750 at a rate of $2\frac{1}{2}\%$ per year simple interest.

Calculate the **total** amount Shania has after 5 years. [3]

Question 26

The taxi fare in a city is $3 **and** then $0.40 for every kilometre travelled.

(a) A taxi fare is $9. [2]

How far has the taxi travelled?

(b) Taxi fares cost 30 % more at night.

How much does a $9 daytime journey cost at night? [2]

Question 27

Hans invests $750 for 8 years at a rate of 2% per year simple interest.

[2]

Calculate the interest Hans receives.

Question 28

Maria decides to increase her homework time of 8 hours per week by 15%.

Calculate her new homework time.
Give your answer in hours and minutes.

[3]

Question 29

During a marathon race an athlete loses 2 % of his mass.
At the end of the race his mass is 67.13 kg.

Calculate his mass before the race. [3]

Question 30

A concert hall has 1540 seats.

Calculate the number of people in the hall when 55% of the seats are occupied. [1]

Question 31

In 1970 the population of China was 8.2×10^8.
In 2007 the population of China was 1.322×10^9.
Calculate the population in 2007 as a percentage of the population in 1970.

[2]

Question 32

In 2004 Colin had a salary of $7200.

[2]

(a) This was an increase of 20% on his salary in 2002.
Calculate his salary in 2002.

(b) In 2006 his salary increased to $8100.
Calculate the percentage increase from 2004 to 2006.

[2]

Question 33

Celine invests $\$\,800$ for 5 **months** at $3\,\%$ simple interest per year.
Calculate the interest she receives.

[2]

Question 34

Sara has \$3000 to invest for 2 years.
She invests the money in a bank which pays simple interest at the rate of 7.5 % per year.
Calculate how much interest she will have at the end of the 2 years.

[2]

Question 35

In 1950, the population of Switzerland was 4 714 900. In 2000, the population was 7 087 000.

(a) Work out the percentage increase in the population from 1950 to 2000.

[2]

(b) (i) Write the 1950 population correct to 3 significant figures.

[1]

(ii) Write the 2000 population in standard form.

[1]

Question 36

Nyali paid $62 for a bicycle. She sold it later for $46.
What was her percentage loss?

[2]