9 (a) Write 6.75×10^{-4} as an ordinary number.

PJ9A

.....

(1)

(b) Work out $\dfrac{2.56 \times 10^{6} \times 4.12 \times 10^{-3}}{1.6 \times 10^{-2}}$

Give your answer in standard form.

.....

(2)

(Total for Question 9 is 3 marks)

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Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

PQ1A

1 (a) Write 468 000 in standard form.

.....

(1)

(b) Write 5.037×10^{-4} as an ordinary number.

.....

(1)

(Total for Question 1 is 2 marks)

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7 (a) Write the number 0.000 086 23 in standard form.

.....

(1)

(b) Work out $\dfrac{3.2 \times 10^{3} + 5.1 \times 10^{-2}}{4.3 \times 10^{-4}}$

Give your answer in standard form, correct to 3 significant figures.

BF7A

.....

(2)

(Total for Question 7 is 3 marks)

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9 $T = \sqrt{\frac{w}{d^3}}$

$w = 5.6 \times 10^{-5}$
$d = 1.4 \times 10^{-4}$

(a) Work out the value of T.
Give your answer in standard form correct to 3 significant figures.

$T =$ .....

(2)

w is increased by 10%
d is increased by 5%

Lottie says,

"The value of T will increase because both w and d are increased."

(b) Lottie is wrong.
Explain why.

.....

.....

(2)

(Total for Question 9 is 4 marks)

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10 The table shows some information about eight planets.

BO10A

Planet	Distance from Earth (km)	Mass (kg)
Earth	0	5.97×10^{24}
Jupiter	6.29×10^{8}	1.898×10^{27}
Mars	7.83×10^{7}	6.42×10^{23}
Mercury	9.17×10^{7}	3.302×10^{23}
Neptune	4.35×10^{9}	1.024×10^{26}
Saturn	1.28×10^{9}	5.68×10^{26}
Uranus	2.72×10^{9}	8.683×10^{25}
Venus	4.14×10^{7}	4.869×10^{24}

(a) Write down the name of the planet with the greatest mass.

.....

(1)

(b) Find the difference between the mass of Venus and the mass of Mercury.

..... kg

(1)

Nishat says that Neptune is over a hundred times further away from Earth than Venus is.

(c) Is Nishat right?
You must show how you get your answer.

(2)

(Total for Question 10 is 4 marks)

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7 £360 is shared between Abby, Ben, Chloe and Denesh.

The ratio of the amount Abby gets to the amount Ben gets is 2 : 7

Chloe and Denesh each get 1.5 times the amount Abby gets.

Work out the amount of money that Ben gets.

KY7A

£.....

(Total for Question 7 is 4 marks)

8 (a) Write 0.00562 in standard form.

KY8A

.....

(1)

(b) Write 1.452×10^3 as an ordinary number.

.....

(1)

(Total for Question 8 is 2 marks)