

Standard Form

Model Answers

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Calculate, giving your answers in standard form,

(a) $2 \times (5.5 \times 10^4)$,

Answer:

 1.1×10 5

(b) $(5.5 \times 10^4) - (5 \times 10^4)$.

Answer:

 5×10^{3}

Question 2

Write the answer to the following calculations in standard form.

(a) 600 ÷ 8000

Answer:



(b) $10^8 - 7 \times 10^6$

Answer:

 $\textbf{9.3}\times\textbf{10}^{7}$

[2]

[2]

[2]



Calculate $(4.3 \times 10^8) + (2.5 \times 10^7)$.

Give your answer in standard form.

[2]

Answer:

 $4.55 imes 10^8$

Question 4

(a) Write 0.0605 in standard form.	[1]		
Answer: 6.05×10^{-2}			
(b) Calculate $0.1 \times 5.1 \times 10^4$, giving your answer in standard form.			
Answer:			

 5.1×10^3



Work out $2(3 \times 10^{8} - 4 \times 10^{6})$, giving your answer in standard form.	[2]
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Answer:

 5.92×10^8

Question 6

Solve the equation $4x + 6 \times 10^3 = 8 \times 10^4$.

Give your answer in standar	rd form.	[3]
Answer:		
$1.85 imes 10^4$		



(a) There are 10^9 nanoseconds in 1 second.

Find the number of nanoseconds in 5 minutes, giving your answer in standard form.

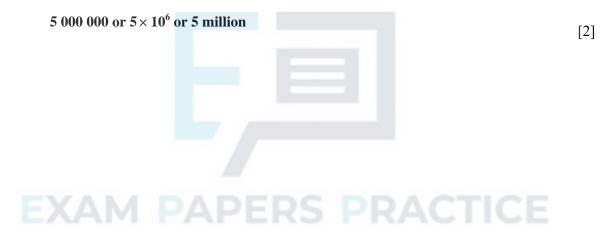
Answer:

 3×10^{11}

[2]

(b) Solve the equation $5(x + 3 \times 10^6) = 4 \times 10^7$.

Answer:





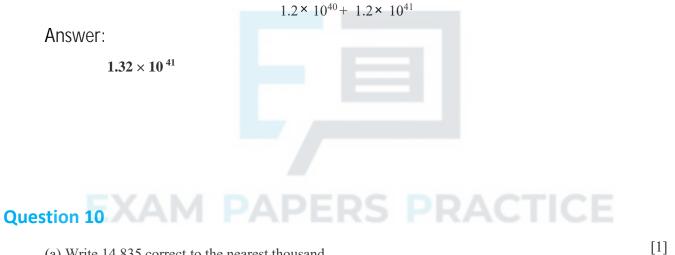
Write 5.17 $\times 10^{-3}$ as an ordinary number.

Answer:

0.00517

Question 9

Work out, giving your answer in standard form.



(a) Write 14 835 correct to the nearest thousand.

Answer:

15000

(b) Write your answer to part (a) in standard form.

[1]

[1]

[2]

Answer:

1.5×10⁴



Write in standard form.

(a)	2	470	000
(a)	4	7/0	000

Answer:

 2.47×10^{6}

(b) 0.0079		[1]
Answer:		
$7.9 imes 10^{-3}$		
Question 12 Write 1.27 × 10 ⁻³ as an ord Answer: [0].00127	linary number.	[1]

Question 13

Write 0.0000574 in standard form.

[1]

[1]

Answer:

 $\textbf{5.74} \times \textbf{10}^{-5}$



Write 1.7×10^{-4} as an ordinary number.

Answer:

[0].00017

Question 15

Write 270000 in standard form.

Answer: 2.7×10^5 EXAMPAPERS PRACTICE
[1]

Question 16

Write 53400000 in standard form.

Answer:

 $\textbf{5.34} \times \textbf{10}^{7}$

[1]

4



(a) Write 2.8×10^2 as an ordinary number.	[1]
Answer:	
280	
(b) Work out $2.5 \times 10^8 \times 2 \times 10^{-2}$. Give your answer in standard form.	[2]
Answer:	
$5 imes 10^6$	
Question 18 Work out $4 \times 10^{-5} \times 6 \times 10^{12}$. Give your answer in standard form.	[2]
Answer:	
E ^{2.4×10⁸} PAPERS PRACTICE	



 $p = 4 \times 10^5$ $q = 5 \times 10^4$

Find, giving your answer in standard form,

[2]

[1]

[1]

Answer:

 2×10^{10}

(b)
$$\frac{q}{p}$$
. [2]

Answer:

 $1.25 imes 10^{-1}$

Question	20

The price of a ticket for a football match is \$124.

(a) Calculate the amount received when 76 500 tickets are sold.

Answer:

9486000

(b) Write your answer to **part (a)** in standard form.

Answer:

 $\textbf{9.486}\times \textbf{10}^{6}$



A hummingbird beats its wings 24 times per second.	
(a) Calculate the number of times the hummingbird beats its wings in one hour.	
Answer:	
86400	
(b) Write your answer to part (a) in standard form.	[1]
Answer:	
$8.64 imes 10^4$	
Question 22	
(a) Write 16 460 000 in standard form.	[1]
Answer: 1.646×10^7	

(b) Calculate $7.85 \div (2.366 \times 10^{2})$, giving your answer in standard form. [2]

Answer:

 3.32×10^{-2}



[2]

[2]

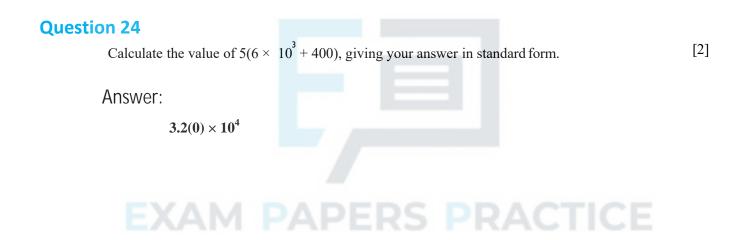
Question 23

Work out $\frac{240^2}{5 \times 10^6}$

Give your answer in standard form.

Answer:

 $1.15(2) \times 10^{-2}$



Question 25

Change 64 square metres into square millimetres. Give your answer in standard form.

Answer:

 6.4×10^{7}



$\sqrt{23}$	400/	1.00	53	
$\sqrt{23}$	48%	4.80		[0]
			11	[2]

[2]

Write the numbers in order of size with the **largest** first.

Answer:

 $\frac{53}{11} > 4.80 > 23 > 48\%$

Question 27

4

1 second = 10^6 microseconds.

Change 3×10^{13} microseconds into minutes. Give your answer in standard form.

 $5(.00) \times 10^5$ Papers Product Produc

Answer:



[1]

Question 28

A light on a computer comes on for 26 700 microseconds.

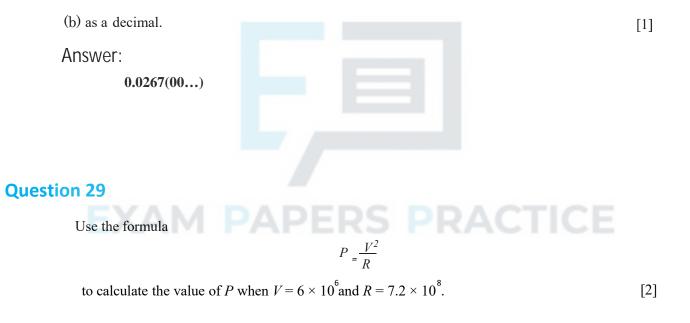
One microsecond is 10^{-6} seconds.

Work out the length of time, in seconds, that the light is on

(a) in standard form,

Answer:

 2.67×10^{-2}



Answer:

5 x 10 ⁴ or 50000



The planet Neptune is 4496000 000 kilometres from the Sun. Write this distance in standard form.

[1]

[3]

Answer:

4.496 x 10⁹

Question 31

The mass of the Earth is $\frac{1}{95}$ of the mass of the planet Saturn.

The mass of the Earth is 5.97×10^{24} kilograms.

Calculate the mass of the planet Saturn, giving your answer in standard form, correct to 2 significant figures.

Answer:

5.7 x 10²⁶

EXAM PAPERS PRACTICE



A block of cheese, of mass 8 kilograms, is cut by a machine into 500 equal slices.

(a) Calculate the mass of one slice of cheese in kilograms.

Answer:

0.016

[1]

[1]

(b) Write your answer to **part (a)** in standard form.

Answer:

 1.6×10^{-2}



