

GRADE 9 ACCELERATED 2014

Exam Revision 1

Paper 1 Type questions

(taken from 0580/s11/21&22)

A concert hall has 1540 seats.

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

Answer [1]

Calculate $81^{0.25} \div 4^{-2}$.

Answer [2]

Which of the following numbers are irrational?

$\frac{2}{3}$ $\sqrt{36}$ $\sqrt{3} + \sqrt{6}$ π 0.75 48% $8^{\frac{1}{3}}$

Answer [2]

A meal on a boat costs 6 euros (€) or 11.5 Brunei dollars (\$).

In which currency does the meal cost less, on a day when the exchange rate is €1 = \$1.9037?
Write down all the steps in your working.

Answer [2]

Use your calculator to find the value of $2^{\sqrt{3}}$.

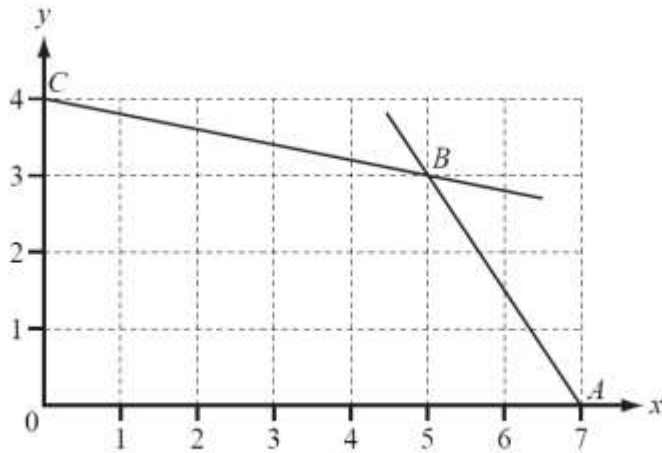
Give your answer correct to 4 significant figures.

Answer [2]

Calculate the radius of a sphere with volume 1260 cm^3 .

[The volume, V , of a sphere with radius r is $V = \frac{4}{3}\pi r^3$.]

Answer cm [3]



The lines AB and CB intersect at B .

(a) Find the co-ordinates of the midpoint of AB .

Answer(a) (..... ,) [1]

(b) Find the equation of the line CB .

Answer(b) [3]

Solve the equation $2x^2 + 3x - 6 = 0$.

Show all your working and give your answers correct to 2 decimal places.

Answer $x = \dots\dots\dots$ or $x = \dots\dots\dots$ [4]

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

Give your answer in standard form.

Answer $x =$ [3]

p varies directly as the square root of q .

$p = 8$ when $q = 25$.

Find p when $q = 100$.

Answer $p =$ [3]

Ashraf takes 1500 steps to walk d **metres** from his home to the station.

Each step is 90 centimetres correct to the nearest 10 cm.

Find the lower bound and the upper bound for d .

Answer $\leq d <$ [3]

The table shows the opening and closing times of a café.

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Opening time	0600	0600	0600	0600	0600	(a)	0800
Closing time	2200	2200	2200	2200	2200	2200	1300

- (a) The café is open for a total of 100 hours each week.
Work out the opening time on Saturday.

Answer(a) [2]

- (b) The owner decides to close the café at a later time on Sunday. This increases the **total** number of hours the café is open by 4%.
Work out the new closing time on Sunday.

Answer(b) [1]

Rearrange the formula $c = \frac{4}{a-b}$ to make a the subject.

Answer a = [3]

Write the following as a single fraction in its simplest form.

$$\frac{x+1}{x+5} - \frac{x}{x+1}$$

Answer [4]

Simplify

(a) $32x^8 \div 8x^{32}$,

Answer(a) [2]

(b) $\left(\frac{x^3}{64}\right)^{\frac{2}{3}}$.

Answer(b) [2]

(a) Find m when $4^m \times 4^2 = 4^{12}$.

Answer(a) $m =$ [1]

(b) Find p when $6^p \div 6^5 = \sqrt{6}$.

Answer(b) $p =$ [1]

A hummingbird beats its wings 24 times per second.

(a) Calculate the number of times the hummingbird beats its wings in one hour.

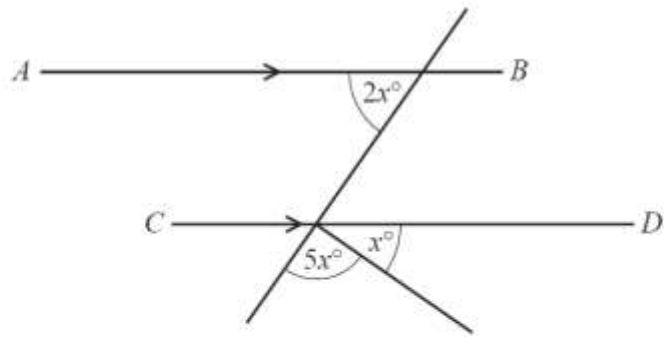
Answer(a) [1]

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

Answer(b) [1]

Find the length of the straight line from $Q(-8, 1)$ to $R(4, 6)$.

Answer $QR =$ [3]



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AB is parallel to CD .
Calculate the value of x .

Answer $x =$ [3]

Solve the simultaneous equations.

$$\begin{aligned} 3x + y &= 30 \\ 2x - 3y &= 53 \end{aligned}$$

Answer $x =$

$y =$ [3]

A rectangular photograph measures 23.3 cm by 19.7 cm, each correct to 1 decimal place.
Calculate the lower bound for

(a) the perimeter,

Answer(a) cm [2]

(b) the area.

Answer(b) cm² [1]

A train leaves Barcelona at 21 28 and takes 10 hours and 33 minutes to reach Paris.

(a) Calculate the time the next day when the train arrives in Paris.

Answer(a) [1]

(b) The distance from Barcelona to Paris is 827 km.

Calculate the average speed of the train in kilometres per hour.

Answer(b) km/h [3]
