# Using a Calculator

## Question Paper 1

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|---|---|
| Level | IGCSE |
| Subject | Maths (0580) |
| Exam Board | Cambridge International Examinations (CIE) |
| Paper Type | Extended |
| Topic | Number |
| Sub-Topic | Using a Calculator |
| Booklet | Question Paper 1 |

**Time Allowed:** **86 minutes**

**Score:** **/71**

**Percentage:** **/100**

**Grade Boundaries:**

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

**1** Calculate $(2.1 - 0.078)^{17}$, giving your answer correct to 4 significant figures.

.....[2]

**2** Calculate.

$$\frac{3.07 + 2^4}{5.03 - 1.79}$$

..... [1]

**3** Use your calculator to work out $\sqrt{10 + 0.6 \times (8.3^2 + 5)}$.

*Answer* ..... [1]

**4** Use your calculator to findthevalueof1.35 $^7$.

Give your answer correct to 5 significant figures.

*Answer* ..... [2]

**5** Calculate $\dfrac{8.24 + 2.56}{1.26 - 0.72}$.

*Answer* ..... [1]

**6** Use your calculator to work out $\sqrt{\frac{3}{4}} + 2^{-1}$.

Give your answer correct to 2 decimal places.

*Answer* ..... [2]

**7** **(a)** Use your calculator to find the value of $7.5^{-0.4} \div 57\sqrt{\ }$

Write down your full calculator display.

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

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

*Answer(b)* ..... [1]

**8** Use a calculator to work out the following.

**(a)** $3\,(-4 \times 6^2 - 5)$

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

**(b)** $\sqrt{3} \times \tan 30° + \sqrt{2} \times \sin 45°$

*Answer(b)* ..... [1]

*Answer* ..... °C [1]

**9** **(a)** Calculate $5.7 - 1.03^2$ .

$\sqrt{\phantom{x}}$

Write down all the numbers displayed on your calculator.

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

**(b)** Write your answer to **part (a)** correct to 3 decimal places.

*Answer(b)* ..... [1]

**10** **(a)** Use your calculator to work out $65 - 1.7^2$.

$\sqrt{\phantom{x}}$

Write down all the numbers displayed on your calculator.

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

**(b)** Write your answer to **part (a)** correct to 2 significant figures.

*Answer(b)* ..... [1]

**11** Use a calculator to find

**(a)** $\sqrt{5\frac{5}{24}}$,

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

**(b)** $\frac{\cos 40°}{7}$.

*Answer(b)* ..... [1]

12 Use your calculator to find the value of

$$\frac{8.1^2 + 6.2^2 - 4.3^2}{2 \times 8.1 \times 6.2}.$$

*Answer* ..... [2]

13 Work out $11.3139 - 2.28 \times \sqrt[3]{9^2}$.

Give your answer correct to one decimal place.

*Answer* ..... [2]

14 $$m = \frac{1}{4}[3h^2 + 8ah + 3a^2]$$

Calculate the exact value of $m$ when $h = 20$ and $a = -5$.

*Answer* $m =$ ..... [2]

15 Find the value of $\dfrac{7.2}{11.8 - 10.95}$.

Give your answer correct to 4 significant figures.

*Answer* ..... [2]

16 **(a)** Calculate $\sqrt[3]{7^{1.5} + 22^{0.9}}$ and write down your full calculator display.

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

**(b)** Write your answer to **part (a)** correct to 4 significant figures.

*Answer(b)* ..... [1]

17 Use your calculator to find $\sqrt{\dfrac{45 \times 5.75}{3.1 + 1.5}}$.

*Answer* ..... [2]

18 Use your calculator to find the value of

**(a)** $3^0 \times 2.5^2$,

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

**(b)** $2.5^{-2}$.

*Answer(b)* ..... [1]

19 Find the value of $\dfrac{\sqrt[3]{17.1-1.89}}{10.4+\sqrt{8.36}}$.

*Answer* ..... [2]

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

*Answer* ..... [2]

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

Give your answer correct to 4 significant figures.

*Answer* ..... [2]

22 Use a calculator to work out the **exact** value of

$$1 + \frac{1}{5} + \left(\frac{1}{5}\right)^2 + \left(\frac{1}{5}\right)^3 + \left(\frac{1}{5}\right)^4.$$

*Answer* ..... [2]

23 Calculate $\sqrt[3]{2.35^2 - 1.09^2}$.
Give your answer correct to 4 decimal places.

*Answer* ..... [2]

24 Calculate the value of $\frac{1}{2}\sqrt{\frac{1}{2}+\frac{1}{2}\sqrt{\frac{1}{2}}}$

**(a)** writing down all the figures in your calculator answer,

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

**(b)** writing your answer correct to 4 significant figures.

*Answer(b)* ..... [1]

25 Calculate $3\sin 120° - 4(\sin 120°)^3$.

*Answer* ..... [2]

26 Use your calculator to find the value of $\dfrac{(\cos 30^o)^2 - (\sin 30^o)^2}{2(\sin 120^o)(\cos 120^o)}$.

*Answer* ..... [2]

**4**

27 $\sin x° = 0.86603$ and $0 \leqslant x \leqslant 180$.

Find the two values of $x$.

*Answer* $x$ = ..... or $x$ = ..... [2]

28 Use a calculator to find the value of $\sqrt{(5.4(5.4 - 4.8)(5.4 - 3.4)(5.4 - 2.6))}$.

**(a)** Write down all the figures in your calculator display.

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

**(b)** Give your answer correct to 1 decimal place.

*Answer(b)* ..... [1]

29 **(a)** Use your calculator to work out

$$\frac{1-(\tan 40°)^2}{2(\tan 40°)}.$$

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

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

*Answer(b)* ..... [1]

30 Use your calculator to work out

**(a)** $\sqrt{(7 + 6 \times 243^{0.2})}$,

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

**(b)** $2 - \tan 30° \times \tan 60°$.

*Answer(b)* ..... [1]

31 Work out

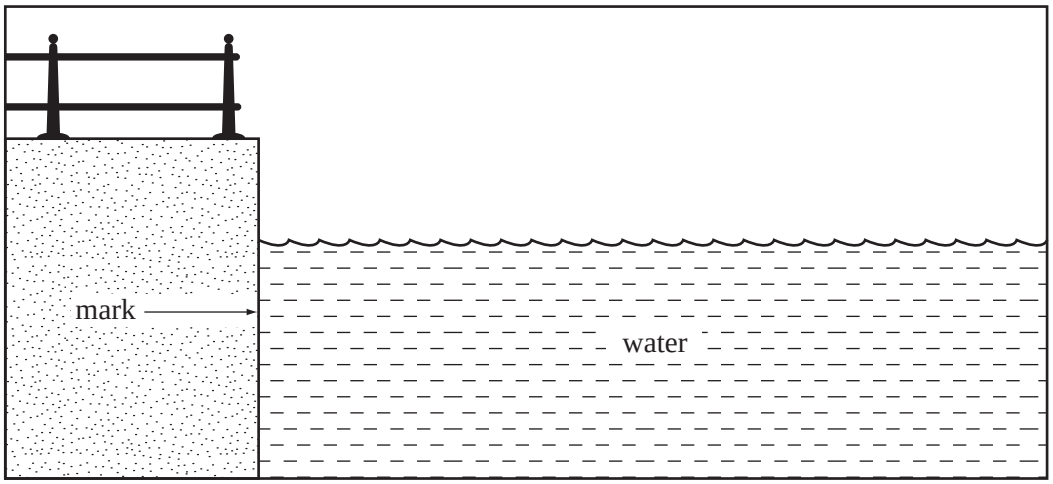
$$\frac{2\tan 30^\circ}{1-(\tan 30^\circ)^2}.$$

*Answer* ..... [2]

32 Calculate the value of $2(\sin 15°)(\cos 15°)$.

*Answer* ..... [1]

33




The height, $h$ metres, of the water, above a mark on a harbour wall, changes with the tide.
It is given by the equation

$$h = 3\sin(30t)^{\circ}$$

where $t$ is the time in hours after midday.

**(a)** Calculate the value of $h$ at midday.

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

**(b)** Calculate the value of $h$ at 19 00.

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

**(c)** Explain the meaning of the negative sign in your answer.

*Answer (c)* ..... [1]

34 Calculate $\left(3+3\sqrt{3}\right)^3$ giving your answer correct to 1 decimal place.

*Answer* ..... [2]

35 Use your calculator to find the value of

$$\frac{6\sin 50^\circ}{\sin 25^\circ}.$$

*Answer* ..... [1]

**36** Work out $\dfrac{2+12}{4+3\times 8}$.

*Answer* ..... [1]

**37** **(a)** Find the value of

**(i)** $\left(\frac{1}{4}\right)^{0.5}$,

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

**(ii)** $(-8)^{\frac{2}{3}}$.

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

**(b)** Use a calculator to find the decimal value of $\frac{\sqrt{29 - 3 \times 32^{0.4}}}{3}$.

*Answer(b)* ..... [1]