

Examination Practice Questions

You should have:

A ruler, protractor, compasses, a pen, pencil, eraser, calculator.
For some questions, you may need tracing paper.

Instructions

- Use **black** ink or ball-point pen.
- Answer the questions in the spaces provided – *there may be more space than you need*.
- **Calculators may be used.**

Information

- The marks for each question are shown in brackets.
- Use the number of marks for each question as a guide as to how much time to spend on each question. As a rough guide, you can multiply the number of marks by 1.2 to see how many minutes you should spend on a question.
- Questions been carefully compiled from or modelled on a variety of past papers and will generally get more challenging as the document progresses. Some of the later questions will go beyond the core grade level for this topic.

Advice

- Read each question carefully before you start to answer it.
- Don't forget to have fun.
- Check your answers at the end.

Q1.

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Write down the value of $16^{\frac{1}{2}}$

.....

(1 mark)

Q2.

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Find the value of $25^{\frac{1}{2}}$

.....

(1 mark)

Q3.

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Write down the value of $8^{\frac{1}{3}}$

.....

(1 mark)

Q4.

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Write down the value of $125^{\frac{1}{3}}$

.....

(1 mark)

Q5.

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Write down the value of $32^{\frac{1}{5}}$

.....

(1 mark)

Q6.

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Find the value of $625^{\frac{1}{4}}$

.....

(1 mark)

Q7.

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$8^{\frac{2}{3}}$ is equal to which of the following?

Tick the correct answer.

☐ $5\frac{1}{3}$

☐ 4

☐ 6

☐ $8\frac{2}{3}$

☐ $\frac{16}{24}$

(1 mark)

Q8.

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Evaluate $16^{\frac{3}{4}}$

.....

(1 mark)

Q9.

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Find the value of $125^{\frac{2}{3}}$

.....

(1 mark)

Q10.

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Evaluate $9^{\frac{3}{2}}$

.....

(1 mark)**Q11.**

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Simplify $(\sqrt[3]{x})^6$

.....

(1 mark)**Q12.**

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Evaluate $\left(\frac{1}{9}\right)^{\frac{3}{2}}$

.....

(2 marks)**Q13.**

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Given that $\left(\sqrt[3]{\frac{1}{x}}\right)^4 = x^m$ find the value of m

.....

(1 mark)

Q14.

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Evaluate

$$(8e^{15})^{\frac{2}{3}}$$

.....
(2 marks)**Q15.**

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Write $\frac{\sqrt[4]{y}}{y}$ in the form y^b where b is a fraction......
(2 marks)**Q16.**

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Given that $\frac{2x^2 - x^{\frac{3}{2}}}{\sqrt{x}}$ can be written in the form $2x^p - x^q$, write down the value of p and the value of q
(2 marks)**Q17.**

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Solve the equation $(25k^2)^{\frac{1}{2}} = 15$
(2 marks)