Name:

Exam Style Questions

Negative Indices
Fractional Indices

Corbettmaths

Ensure you have: Pencil, pen, ruler, protractor, pair of compasses and eraser

You may use tracing paper if needed

Guidance

1. Read each question carefully before you begin answering it.
2. Don't spend too long on one question.
3. Attempt every question.
4. Check your answers seem right.
5. Always show your workings

Revision for this topic

www.corbettmaths.com/contents

Video 175

Video 173

1. Evaluate

$$4^{-2}$$

.....

(1)

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2. Evaluate

$$36^{\frac{1}{2}}$$

.....

(1)

---

3. Write as a fraction.

$$5^{-3}$$

.....

(1)

---

4. Work out

$$25^{0}$$

.....

(1)

---

5. Evaluate

$$1000^{\frac{1}{3}}$$

.....

(1)

6. Evaluate

(a)

$$27^{\frac{2}{3}}$$

.....

(2)

(b)

$$10000^{\frac{3}{4}}$$

.....

(2)

(c)

$$32^{-\frac{4}{5}}$$

.....

(2)

---

7. Work out

$$16^{0.5}$$

.....

(1)

---

8. Evaluate

$$81^{-\frac{3}{4}}$$

.....

(2)

9. Work out

$$16^{\frac{3}{2}}$$

.....

(2)

---

10. Evaluate

$$\left(\frac{16}{25}\right)^{\frac{1}{2}}$$

.....

(2)

---

11. Evaluate

$$32^{-0.4}$$

.....

(2)

---

12. Work out

$$25^{\frac{1}{2}} \div 2^{-2}$$

.....

(3)

13. Work out

$$125^{\frac{1}{3}} \times 2^{-3}$$

.....

(2)

---

14. Evaluate

$$16^{1.5} + 8^{0}$$

.....

(2)

---

15. Evaluate

$$\left(\frac{49}{100}\right)^{-\frac{1}{2}}$$

.....

(2)

---

16. w is greater than 1.

Write in order, from smallest to largest.

w^0 w^3 $\frac{w^3}{w^4}$ w^{-2}

.....

(2)

---

17. Evaluate

$2^4 \times 4^{-2}$

.....

(2)

---

18. Isaac claims that the values of two of the numbers below are equal.

$9^{-\frac{3}{2}}$ 3^{-2} $0.\dot{0}3\dot{7}$ $16^{-\frac{3}{4}}$

Is Isaac correct?
You **must** show your working.

(5)

19. Work out

$$10^{-2}$$

Give your answer as a decimal.

.....

(2)

---

20. Simplify fully

$$4^{-2} \times (4^{\frac{1}{3}})^{3}$$

.....

(2)

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21. Simplify fully

$$7 \times 7^{0} \times 7^{-1}$$

.....

(2)

22. Write the numbers below in the form 2^n

(a) 4

.....

(1)

(b) 8

.....

(1)

(c) 32

.....

(1)

(d) ½

.....

(1)

(e) ¼

.....

(1)

(f) $\sqrt{2}$

.....

(1)

(g) $\sqrt{8}$

.....

(2)

23. Write the numbers below in the form 5^n

(a) 5

.....

(1)

(b) 625

.....

(1)

(c) 1

.....

(1)

(d) $\frac{1}{5}$

.....

(1)

(e) $\sqrt{5}$

.....

(1)

(f) $\sqrt{125}$

.....

(2)

(g) $\sqrt{3125}$

.....

(2)

24. Write 8 in the form 4^n

.....

(2)

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25. Write 32 in the form 4^n

.....

(2)