

Name:

Exam Style Questions

Indices



Corbettmaths

Equipment needed: Pen, Calculator

**Guidance**

1. Read each question carefully before you begin answering it.
2. Check your answers seem right.
3. Always show your workings

Video Tutorial

[www.corbettmaths.com/contents](http://www.corbettmaths.com/contents)

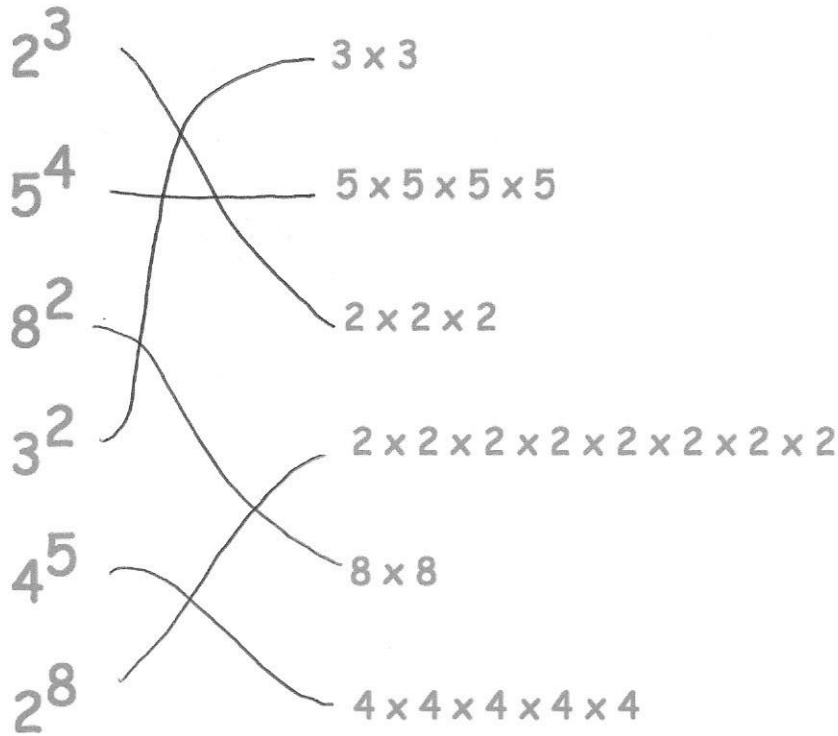
Video 172



Answers and Video Solutions



1. Match each of the following



(3)

2. Circle the value of  $3^3$



6

9

12

27

$$3 \times 3 \times 3 = 27$$

(1)

3. Work out  $5^2 + 2^3$



$$5^2 = 25$$

$$2^3 = 8$$

$$25 + 8 = 33$$

33

(2)

4. Work out  $3^3 - 4^2$



$$3^3 = 27$$

$$4^2 = 16$$

$$27 - 16 = 11$$

$$\begin{array}{r} 11 \\ \hline \end{array}$$

(2)

5. Calculate  $2.8^2 + 7^3$



$$7.84 + 343 = 350.84$$

$$\begin{array}{r} 350.84 \\ \hline \end{array}$$

(2)

6. Calculate



(a) The cube of 8

$$8 \times 8 \times 8 = 512$$

$$\begin{array}{r} 512 \\ \hline \end{array}$$

(2)

(b)  $2^5$

$$2 \times 2 \times 2 \times 2 \times 2$$

$$\begin{array}{r} 32 \\ \hline \end{array}$$

(2)

7. (a) Calculate  $4.25^4$  and write down the full calculator display  
Give your answer as a decimal.



$$\underline{326.2539063}$$

(1)

- (b) Round your answer to one decimal place

$$\underline{326.3}$$

(1)

8. Work out



(a)  $9^3$

$$9 \times 9 = 81$$

$$\begin{array}{r} 81 \\ \times 9 \\ \hline 729 \end{array}$$

$$\underline{729}$$

(1)

(b)  $3^4$

$$3 \times 3 \times 3 \times 3 = 81$$

$$\underline{81}$$

(1)

(c)  $10^6$

$$\underline{1000000}$$

(1)

(d)  $1^7$

$$\underline{1}$$

(1)

9. Calculate  $3^6$



729

(1)

10. Work out  $(-4)^3$



$$(-4) \times (-4) = 16$$

$$16 \times (-4) = -64$$

-64

(2)

11. Matthew says that  $10^7$  is equal to a million.



Is Matthew correct?

Explain your answer.

$$10^7 = 10,000,000$$

No,  $10^7$  is ten million.

(1)

12. Fill in the power



$$2^{\boxed{4}} = 16$$

(1)

13.  $10^x = 100000$



Circle the value of x

4

5

6

7

(1)

14. Fill in the power



$$7^{\boxed{5}} = 16807$$

(1)

15. Work out  $12^4$



$$12 \times 12 = 144$$

$$\begin{array}{r} 144 \\ \times 12 \\ \hline 288 \\ + 1440 \\ \hline 1728 \end{array}$$

$$\begin{array}{r} 1728 \\ \times 12 \\ \hline 3456 \\ + 17,280 \\ \hline 20736 \end{array}$$

20736

(3)

16. Given that



$$y^3 = 216$$

Write down the value of x

$$6^3 = 216$$

6

(1)

17. Given that



$$x^4 = 625$$

Write down the possible values of x

$$5^4 = 625$$

$$(-5)^4 = 625$$

5 or -5

(2)

18. Given that  $2^6 = y^3$



Write down the value of y.

$$2^6 = 64$$

$$y^3 = 64$$

$$y = 4$$

4

(1)

19. Write 81 as a power of 3.



$3^4$

(1)

20. Write  $4^3$  as a power of 2.



$$4^3 = 64$$

$$2^6$$

$$2^6$$

(2)

21. Mary and David think of the same number.



David squares the number.

Mary cubes the number.

Is it possible for David's answer to be greater than Mary's answer?

Explain your answer.

yes

$$0.5^2 = 0.25$$

$$0.5^3 = 0.125$$

(2)