

Name _____ Date _____

Stage 8 End of Unit 1 Test

1 Work out

a -3×-5

_____ [1]

b $-32 \div 4$

_____ [1]

c $-2 \times (1 + -8)$

_____ [1]

2 a Find the highest common factor of 24 and 32. _____ [1]

b Find the lowest common multiple of 6 and 9. _____ [1]

3 Find the prime factors of 44. _____ [1]

4 a Using a tree diagram, or otherwise, write 200 as a product of prime factors.

_____ [2]

5 a $280 = 2^3 \times 5 \times 7$

Use this fact to find the highest common factor of 200 and 280.

[2]

b Find the lowest common multiple of 200 and 280.

[2]

6 $3^5 = 243$

Use this fact to find 3^6 . Show your method.

[1]

7 Circle the square numbers in this list.

1 121 -64 49 160 -81

[1]

8 $125 = 5^3$ and $15625 = 5^6$ in index form.

Write the answers to these calculations in index form.

a 125×15625 _____ [1]

b $15625 \div 125$ _____ [1]

9 a Show that 64 is a cube number. _____ [1]

b Show that 100 is **not** a cube number. _____ [1]

10 Find the possible values of n when

a $n^2 = 36$ _____ [1]

b $n^3 = -27$ _____ [1]

[TOTAL: 20 Marks]

END OF TEST

Name _____ Date _____

Stage 8 End of Unit 2 Test

1 Draw a line to join each description (on the left) to the correct expression (on the right).

- | | | |
|--|----------------|-----|
| a Multiply n by 2 and subtract 3 | i $3(n + 2)$ | |
| b Add 2 and n then multiply by 3 | ii $2(n + 3)$ | |
| c Multiply n by 3 and add 2 | iii $2(n - 3)$ | |
| d Add 3 and n then multiply by 2 | iv $2n - 3$ | |
| e Subtract 2 from n then multiply by 3 | v $3n + 2$ | |
| f Subtract 3 from n then multiply by 2 | vi $3(n - 2)$ | [6] |

2 Lara thinks of a number x .

Write an expression for the number Lara gets when she

- a divides the number by 3 then subtracts 2 _____ [1]
- b adds 2 to the number then divides by 3. _____ [1]

3 Work out the value of each expression.

- a $3p + 9$ when $p = -4$ _____ [2]

- b $\frac{x}{2} - y^2$ when $x = 24$ and $y = 5$ _____ [2]

4 Use the formula $s = 3h + 7g$ to work out the value of s when $h = 7$ and $g = 9$.

_____ [2]

- 5 a Rearrange the formula $y = mx$ to make x the subject.

[1]

- b Use your formula to work out the value of x when $y = 4.8$ and $m = 1.2$.

[1]

- 6 Fill in the missing numbers and letters.

a $4(x + 3) = 4x + \underline{\hspace{1cm}}$

b $y(y + 9) = \underline{\hspace{1cm}} + 9y$

c $2(m - 3n) = \underline{\hspace{1cm}} - \underline{\hspace{1cm}}$

d $6x - 18 = 6(x - \underline{\hspace{1cm}})$

e $8k + 12 = \underline{\hspace{1cm}}(\underline{\hspace{1cm}} + 3)$

f $5b + 15b^2 = \underline{\hspace{1cm}}(\underline{\hspace{1cm}} + \underline{\hspace{1cm}})$

[6]

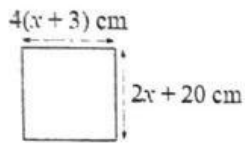
- 7 Expand and simplify $u(3u + 7) - u(u - 2)$.

[2]

- 8 Solve the equation $\frac{y}{3} - 8 = 2$.

[2]

- 9 The diagram shows a square.



- a Write an equation to represent the problem.

[1]

- b Solve your equation to find the value of x .

[2]

- c Work out the side length of the square.

[2]

- 10 For the inequality $-2 < y \leq 4$ write down

- a the smallest integer that y could be _____ [1]

- b the largest integer that y could be _____ [1]

- c a list of the integer values that y could be. _____ [1]

- 11 Complete these equivalent inequalities.

- a $x > 5$ is equivalent to $4x > \underline{\hspace{2cm}}$

- b $y \leq 6$ is equivalent to $y + 3 \leq \underline{\hspace{2cm}}$ [2]

[TOTAL: 36 Marks]

END OF TEST

Name _____

Date _____

Stage 8 End of Unit 3 Test

1 Work these out.

a $32 \times 0.1 =$ _____

b $470 \times 0.1 =$ _____

c $87 \times 0.01 =$ _____

d $9 \times 0.01 =$ _____

e $6 \div 0.1 =$ _____

f $0.45 \div 0.1 =$ _____

g $8 \div 0.01 =$ _____

h $12.7 \div 0.01 =$ _____

[8]

2 Write 0.1 or 0.01 in each space to make the calculations correct.

a $3.5 \times \underline{\hspace{1cm}} = 0.35$

b $2.7 \div \underline{\hspace{1cm}} = 270$

c $0.9 \times \underline{\hspace{1cm}} = 0.009$

d $24 \div \underline{\hspace{1cm}} = 240$

[4]

3 Circle the correct answer, A, B, C or D.

a 783 rounded to 1 s.f.

A 7

B 8

C 700

D 800

b 58.6212 rounded to 3 s.f.

A 58.6

B 58.621

C 59.6

D 0.586

c 0.0894 rounded to 2 s.f.

A 0.08

B 0.089

C 0.09

D 0.1

[3]

- 4 There were 12 435 male and 9475 female supporters at a baseball match.

How many supporters were there altogether?

Give your answer correct to two significant figures.

_____ [2]

- 5 a Work out an estimate of: $\frac{0.35 \times 679}{1.976}$.

_____ [2]

- b On a calculator, work out the accurate value. _____ [1]

- c Compare your answers to parts a and b.

Do you think your accurate answer is correct? _____

Explain why. _____ [1]

- 6 a On a calculator, work out the answer to $17^3 - \sqrt{329}$.

Write down all the numbers on your calculator display.

_____ [1]

- b Round your answer to part a to the stated number of significant figures (s.f.).

i 1 s.f. _____

ii 5 s.f. _____

[2]

[TOTAL: 24 Marks]

END OF TEST

Name _____ Date _____

Stage 8 End of Unit 4 Test

- 1 Write these decimal numbers in order of size, starting with the smallest.

8.621, 8.65, 8.009, 8.63

_____ [2]

- 2 Write the correct sign, = or $\neq$, between each pair of measurements.

a 5.5 l _____ 550 ml

[2]

b 2.5 kg _____ 2500 g

- 3 Write the correct inequality, < or >, between each pair of measurements.

a 12.5 cm _____ 132 mm

[2]

b 6900 m _____ 0.7 km

- 4 Write these measurements in order of size, starting with the smallest.

4.6 kg, 570 g, 1.37 kg, 1350 g, 4.09 kg

_____ [2]

- 5 Write the correct inequality, < or >, between each pair of numbers.

a -4.4 _____ -4.2

[2]

b -0.75 _____ -0.79

- 6 Write these decimal numbers in order of size, starting with the smallest.

-15.425, -15.81, -15.08, -15.5, -15.84

_____ [2]

- 7 Use a mental method to work these out.

a $0.1 \times 6 =$ _____

[2]

b $0.5 \times -3 =$ _____

8 Use the fact that $124 \times 63 = 7812$ to write down the answers to these.

a $12.4 \times 63 =$ _____

b $124 \times 6.3 =$ _____

c $1.24 \times 6.3 =$ _____

d $1.24 \times 0.63 =$ _____

[4]

9 Which of these calculation cards is the odd one out?

Explain why.

A $6.4 \div 0.8$

B $1.6 \div 0.2$

C $3.2 \div 0.4$

D $48 \div 0.6$

E $5.6 \div 0.7$

[2]

10 Work out these multiplications.

Show how to check your answers using estimation.

a 4.2×3.6

b 0.12×1.35

_____	_____
_____	_____
_____	_____
_____	_____

[4]

11 Work out these divisions.

a $45.6 \div 0.6$

b $-3.15 \div 0.2$

_____	_____
_____	_____
_____	_____

[4]

12 a Complete the table below showing the 15 times table.

1	2	3	4	5	6	7	8	9
15	30	45	60					

[1]

b Jon buys a piece of wood for \$12.54.

The piece of wood is 1.5 m long.

Work out the cost per metre of the wood.

[2]

13 Work these out.

Use the methods you have learned to make the questions easier.

a $(0.8 - 0.5) \times 0.13$

b 0.9×45

c 16×0.35

d 9.9×72

e $2.5 \times 63.8 \times 4$

f 16×0.35

[6]

[TOTAL: 37 Marks]

END OF TEST