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 $4(x + 3) = 4x + \_\_\_$

b $y(y + 9) = \_\_\_ + 9y$

c $2(m - 3n) = \_\_\_ - \_\_\_$

d $6x - 18 = 6(x - \_\_\_)$

e $8k + 12 = \_\_\_(\_\_\_ + 3)$

f $5b + 15b^2 = \_\_\_(\_\_\_ + \_\_\_)$

[6]

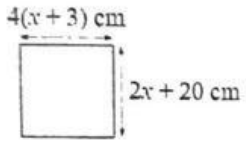
7 Expand and simplify $u(3u + 7) - u(u - 2)$.

[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 $4x >$ ___

b $y \leq 6$ is equivalent to $y + 3 \leq$ ___ **[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 $3.5 \times$ ___ $= 0.35$

b $2.7 \div$ ___ $= 270$

c $0.9 \times$ ___ $= 0.009$

d $24 \div$ ___ $= 240$ **[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: $\frac{0.35\times679}{1.976}$.

_____

_____ [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 ≠, between each pair of measurements.

a 5.5 l ___ 550 ml

b 2.5 kg ___ 2500 g

[2]

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

a 12.5 cm ___ 132 mm

b 6900 m ___ 0.7 km

[2]

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

b −0.75 ___ −0.79

[2]

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 × 6 = _____

b 0.5 × −3 = _____

[2]

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