High School
Mathematics Test 2015

Year 7	*Decimals*	Non Calculator Section

Skills and Knowledge Assessed:

- Add and subtract decimals, with and without digital technologies, and use estimation and rounding to check the reasonableness of answers (ACMNA128)
- Multiply decimals by whole numbers and perform divisions by non-zero whole numbers where the results are terminating decimals, with and without digital technologies (ACMNA129)
- Multiply and divide decimals by powers of 10 (ACMNA130)
- Round decimals to a specified number of decimal places (ACMNA156)
- Multiply decimals by other decimals. (Extension)

Name_____

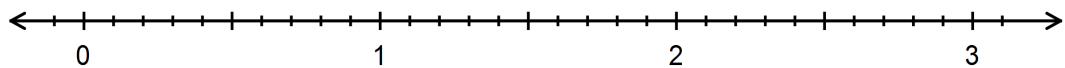Answer all questions in the spaces provided on this test paper by:

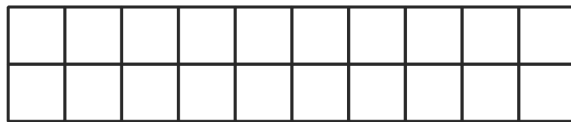   *Writing the answer in the box or on the line provided.*

      or

   Shading in the bubble for the correct answer from the four choices provided.

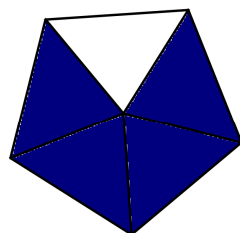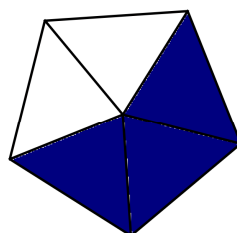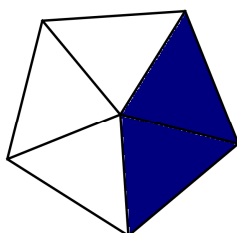Show any working out on the test paper.   Calculators are **not** allowed.
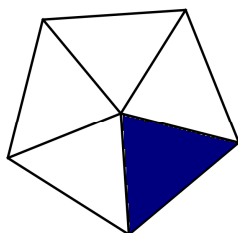
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1. Mark the position of 2.6 on the number line below.

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2. Shade a section which is 0.8 of the area of this rectangle.

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3. Which polygon has 0.4 shaded?

4.	Which decimal is equivalent to $\dfrac{19}{1000}$? ☐ 0.0019 ☐ 0.019 ☐ 0.19 ☐ 1.9
5.	Which fraction is equivalent to 0.55? ☐ $\dfrac{11}{20}$ ☐ $\dfrac{11}{25}$ ☐ $\dfrac{11}{40}$ ☐ $\dfrac{11}{50}$
6.	$0.76 + 0.6 = ?$ ☐ 0.82 ☐ 1.26 ☐ 1.36 ☐ 8.2
7.	Three boxes have masses of 0.25 kg, 0.84 kg and 2.36 kg. What is the total mass of the boxes?
8.	$4.7 - 2.5 = ?$
9.	$1.25 - 0.09 = ?$ ☐ 0.35 ☐ 1.06 ☐ 1.16 ☐ 1.241
10.	$3.2 \times 7 = ?$
11.	Round 37.2579 correct to the nearest hundredth.

12.	What is the value of the 8 digit in the number 13.2187? ☐ Hundredths ☐ Tenths ☐ Ten Thousandths ☐ Thousandths
13.	0.00579 × 10 000 = ? ☐ 0.0579 ☐ 0.579 ☐ 5.79 ☐ 57.9
14.	What is the sum of 6.22, 3.8, 0.125 and 12?
15.	6.3 − 3.68 = ?
16.	Four soft drink containers are labelled as holding 0.375 litres, 0.6 litres, 1.25 litres and 2 litres. How many litres do they hold altogether?
17.	9.42 − 0.628 = ? ☐ 3.14 ☐ 7.792 ☐ 8.702 ☐ 8.792
18.	4.75 ÷ 5 = ?
19.	Keiran fills 8 water bottles which each hold 0.375 litres. How many litres of water do the bottles hold altogether?

20.	Subtract 14.85 from 20.

21.	Martin divides a cake which has a mass of 1.53 kg into 9 equal pieces. What is the mass (in kg) of each piece?

22.	83.1 ÷ 1000 = ?

☐ 0.00831   ☐ 0.0831   ☐ 0.831   ☐ 8.31

23.	Round 14.697 correct to 2 decimal places.

24.	Hermione pours 0.425 litres from a bottle which originally held 1.25 litres. How many litres remain in the bottle?

25.	What decimal number is represented by the expanded notation: $7 \times 1 + 8 \times \dfrac{1}{10} + 6 \times \dfrac{1}{1000}$?

☐ 0.7806   ☐ 7.086   ☐ 7.806   ☐ 7.86

26.	What is the average of 3.4, 2.5, 6.8, 4.23, 6.35 and 0.9?

☐   4.03   ☐   4.83   ☐   4.836   ☐   24.18

27.	$62.5 \times 0.04 = ?$
	☐ 2.49 ☐ 2.5 ☐ 24.9 ☐ 25

28.	0.415×0.08

29.	Felicity buys 0.8 litres of liquid soap from a bulk store.
	The soap costs \$4.76 per litre.
	What does she pay for the soap (to the nearest 5 cents)?

30.	$0.15^2 = ?$

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Decimals

Year 7

Name_____

Answer all questions in the spaces provided on this test paper by:

Writing the answer in the box provided.

or

Shading in the bubble for the correct answer from the four choices provided.

Show any working out on this test paper. Calculators are allowed.

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1. What number is marked on the number line below?

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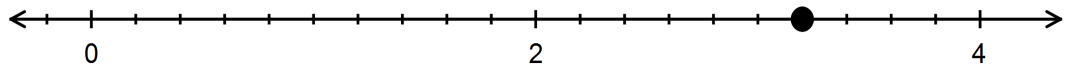
2. What part of this rectangle is shaded?
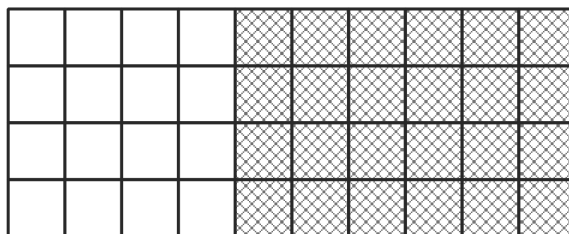
☐ 0.16   ☐ 0.24   ☐ 0.4   ☐ 0.6

3.	Louise's handbag and its contents have a mass of 8.4 kg. What does the mass of the handbag become when she takes out her purse which has a mass of 2.26 kg?
4.	The length of the four boundaries on a block of land are 12.5 m, 68.25 m, 25.35 m and 54.8 m What is the total length of the boundaries?
5.	What is the value of 6.24×1.38, when rounded correct to two decimal places? ☐ 8.6 ☐ 8.61 ☐ 8.62 ☐ 8.7
6.	Which is true? ☐ 0.25 > 0.5 ☐ 0.9 < 0.75 ☐ 0.8 < 0.64 ☐ 0.5 > 0.28
7.	Torah makes a fruit drink by adding 0.15 litres of concentrate to each litre of water. She has 6.4 litres of water. How many litres of concentrate does she need?
8.	Ashleigh buys 12.5 litres of petrol which costs her $28.80. What is the cost per litre of the petrol (to the nearest cent)?

9.	In a diving competition, each competitor is given a score out of 10, and then the average of these scores is taken. Steve was given the six scores below. What was his average score (correct to 1 decimal place)?

7.5, 8.2, 8.4, 9.4, 8.9, 7.8.

10.	Lydia adds four weights which each have a mass of 6.25 kg to a bar which has a mass of 3.2 kg.

What is the total mass (in kg) that she will lift?

11.	Arrange the numbers below in ascending order.

5.5, 0.5, 0.005, 0.55, 0.05, 0.055

12.	If I calculate the square of a number between 0 and 1, which is true?

⬭ The answer will always be smaller than the original number.

⬭ The answer will always be the same as the original number.

⬭ The answer will always be larger than the original number.

⬭ The answer could be smaller or larger than the original number.

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Year 7	*Decimals*	Non Calculator Section

ANSWERS

No.	WORKING	ANSWER
1.	(number line from 0 to 3 with point marked between 2 and 3)	
2.	Any 16 squares e.g. (grid of squares, 16 shaded)	
3.	$0.4 = \dfrac{4}{10} = \dfrac{2}{5}$ So 2 shaded parts out of 5.	2nd answer
4.	$\dfrac{19}{1000} = 0.019$	2nd answer
5.	$0.55 = \dfrac{55}{100} = \dfrac{11}{20}$	1st answer
6.	$0.76 + 0.6 = ?$ $\begin{array}{r} 0.76\ + \\ 0.6 \\ \hline 1.36 \end{array}$	3rd answer
7.	$\begin{array}{r} 0.25\ + \\ 0.84 \\ 2.36 \\ \hline 3.45 \end{array}$	3.45 kg
8.	$\begin{array}{r} 4.7\ - \\ 2.5 \\ \hline 2.2 \end{array}$	2.2

9.	$\begin{array}{r} 1.25\ - \\ \underline{0.09\ } \\ 1.16 \end{array}$	3rd answer
10.	$\begin{array}{r} 3.2\ \times \\ \underline{7\ } \\ 22.4 \end{array}$	22.4
11.	$37.2579 = 37.26$	37.26
12.	In the number 13.2187, the 8 is in the 3rd decimal place which is thousandths	4th answer
13.	$0.00579\ \times\ 10\ 000\ =\ 57.9$	4th answer
14.	$\begin{array}{r} 6.220\ + \\ 3.800 \\ 0.125 \\ \underline{12.000\ } \\ 22.145 \end{array}$	22.145
15.	$\begin{array}{r} 6.30\ - \\ \underline{3.68\ } \\ 2.62 \end{array}$	2.62
16.	$\begin{array}{r} 0.375\ + \\ 0.600 \\ 1.250 \\ \underline{2.000\ } \\ 4.225 \end{array}$	4.225 litres
17.	$\begin{array}{r} 9.420\ - \\ \underline{0.628\ } \\ 8.792 \end{array}$	4th answer
18.	$\begin{array}{r} 0.95\ \\ 5\overline{)4.75} \end{array}$	0.95
19.	$\begin{array}{r} 0.375\ \times \\ \underline{8\ } \\ 3.000 \end{array}$	3 litres
20.	$\begin{array}{r} 20.00\ - \\ \underline{14.85\ } \\ 5.15 \end{array}$	5.15

21.	$\begin{array}{r} 0.17 \\ 9\overline{)1.53} \end{array}$	0.17 kg
22.	$83.1 \div 1000 = 0.0831$	2nd answer
23.	$14.697 = 14.70$	14.70
24.	$\begin{array}{r} 1.250 \;- \\ 0.425 \\ \hline 0.825 \end{array}$	0.825 litres
25.	$7 \times 1 + 8 \times \dfrac{1}{10} + 0 \times \dfrac{1}{100} + 6 \times \dfrac{1}{1000} = 7.806$	3rd answer
26.	$3.4 + 2.5 + 6.8 + 4.23 + 6.35 + 0.9 = 24.18$ Average $= \dfrac{24.18}{6}$ $= 4.03$	1st answer
27.	$\begin{array}{r} 62.5 \;\times \\ 0.04 \\ \hline 2.500 \end{array}$	2nd answer
28.	$\begin{array}{r} 0.415 \;\times \\ 0.08 \\ \hline 0.03320 \end{array}$	0.0332
29.	$\begin{array}{r} \$4.76 \;\times \\ 0.8 \\ \hline \$3.808 \end{array}$ Cost = \$3.80 (nearest 5 cents)	\$3.80
30.	$0.15^2 = 0.15 \times 0.15$ $\begin{array}{r} 0.15 \;\times \\ 0.15 \\ \hline 0\;75 \\ 1\;50 \\ \hline 0.02\;25 \end{array}$	0.0225

	Decimals	Calculator Allowed Short Answer Section
Year 7		

ANSWERS

No.	WORKING	ANSWER
1.	10 places between 2 and 4, so each is 0.2 Dot is 6 places along, so $6 \times .02 = 1.2$ Number is $2 + 1.2 = 3.2$	3.2
2.	6 out of 10 columns are shaded so $\dfrac{6}{10} = 0.6$	4th answer
3.	$8.4 - 2.26 = 6.14$ kg	6.14 kg
4.	$12.5 + 68.25 + 25.35 + 54.8 = 160.9$	160.9 m
5.	$6.24 \times 1.38 = 8.6112$ $\qquad\qquad = 8.61$ (2 decimal places)	2nd answer
6.	$0.5 > 0.28$ is true.	4th answer
7.	$6.4 \times 0.15 = 0.96$ litres	0.96 litres
8.	$28.8 \div 12.5 = \$2.304$ $\quad = \$2.30$/litre	\$2.30 / litre
9.	Average $= \dfrac{7.5 + 8.2 + 8.4 + 9.4 + 8.9 + 7.8}{6}$ $= \dfrac{50.2}{6}$ $= 8.3666666$ $= 8.4$ (1 decimal place)	8.4

10.	Total = $6.25 \times 4 + 3.2$
	     = $25 + 3.2$
	     = 28.2 kg
		28.2 kg

11.	0.005, 0.05, 0.055, 0.5, 0.55, 5.5	In order as shown

12.	e.g. $0.2 \times 0.2 = 0.04$ which is smaller
	     $0.6 \times 0.6 = 0.36$ which is smaller
	     $0.9 \times 0.9 = 0.81$ which is smaller
		1st answer