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| Year 8 | | *Rational Numbers* | Non Calculator  Section |
| **Skills and Knowledge Assessed:**   * Connect fractions, decimals and percentages and carry out simple conversions (ACMNA157) * Carry out the four operations with rational numbers and integers, using efficient mental and written strategies and appropriate digital technologies (ACMNA183) * Investigate terminating and recurring decimals (ACMNA184) | | | 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 the test paper.Calculators are **not** allowed. | | | |
|  | The fraction of the diagram which is shaded is : | | |
|  | Which decimal is equivalent to  ?  0.0019 0.019 0.19 1.9 | | |
|  | Simplify the fraction . | | |
|  |  | | |
|  |  | | |
|  |  | | |
|  |  | | |
|  | What decimal is equivalent to | | |
|  | 0.41 1.31 1.41 14.1 | | |
|  | Which of the points represent the position of  on the number line?    Point *A* Point *B* Point *C* Point *D* | | |
|  | Which fraction is equivalent to 0.55? | | |
|  | Three boxes have masses of 0.25 kg, 0.84 kg and 2.36 kg.  What is the total mass of the boxes? | | |
|  | Find  of 48 litres. | | |
|  | Which fraction is equivalent to 45% ? | | |
|  |  | | |
|  | In September Mr Robinson made 60 wooden toys in his workshop.  In October he made 72 wooden toys.  What is the percentage increase in October compared to September? | | |
|  |  | | |
|  | Simplify | | |
|  | What decimal number is represented by the expanded notation:  ?  0.7806 7.086 7.806 7.86 | | |
|  |  | | |
|  |  | | |
|  | A car dealer bought a used car for $8 000 and later sold it for $12 500.  What was the percentage profit when selling the car?  12.5% 45%  56.25% 80% | | |
|  | A store sells a packet of cereal for $5.20.  The store added a 30% profit to its cost price to achieve the selling price.  What was the cost price?  $1.30 $2.00 $2.60 $4.00 | | |
|  | In a sporting crowd, 24% are found to be wearing football jerseys.  If 6000 were wearing football jerseys, how many were in the crowd? | | |

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| Year 8 | | *Rational Numbers* | Calculator Allowed  Short Answer  Section |
|  | | | 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. | | | |
|  | Shade 0.4 of the shape shown. | | |
|  | Round 37.2579 correct to the nearest hundredth. | | |
|  | Mark the position of  on the number line below. | | |
|  | Write 9% as a decimal number. | | |
|  | Complete, giving your answer as a mixed number in simplest form; | | |
|  |  | | |
|  | What is the value of the 8 digit in the number 13.2187?  Hundredths Tenths Ten Thousandths Thousandths | | |
|  | Complete, giving your answer in simplest form; | | |
|  |  | | |
|  | Write these fractions in order from smallest to largest. | | |
|  | Write the decimals below in ascending order.  0.15, 2.15, 0.125, 0.002 and 1.2. | | |
|  | What fraction is 25 seconds of 1 minute and 15 seconds? (Answer in simplest form). | | |
|  | Write one of the symbols <, > or = in the boxes below to make true sentences.  a)  b) | | |
|  | 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? | | |
|  | 0.00831 0.0831 0.831 8.31 | | |
|  | 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? | | |
|  | A car costs $28 160 from a dealer, including GST.  A charity buys the car and does not have to pay GST.  How much would they pay for the car? | | |
|  | There are 250 students in Year 8 at Ashleigh High School.  A group of 40 students from Year 8 went on an excursion.  Of this group, 7.5% were given commendations for helping with the organisation of the excursion.  What percentage of the school year were given these commendations?    1.2% 1.5% 2.4% 3.0% | | |
|  | In 2015, Declan’s income from his hobby decreased by 27% compared to 2014.  His income in 2014 was $1 360.  If it continued to decrease at this annual percentage rate, what would be his income in 2016?  Answer to nearest 5 cents. | | |
|  | Write the following in order from smallest to largest. | | |
|  | Which decimal is equal to  ? | | |
|  | A recurring decimal is written as  The decimal could also be written as:  0.806806806… 0.806060606…. 0.80666666… 0.806 | | |
|  | What fraction is the same as | | |
|  | 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 8 | | *Rational Numbers* | Non Calculator  Section |
| ANSWERS | | | |
| No. | WORKING | | ANSWER |
|  | 3 parts out of 10, so | | 2nd answer |
|  |  | | 2nd answer |
|  |  | |  |
|  |  | |  |
|  |  | |  |
|  |  | |  |
|  |  | |  |
|  |  | | 0.35 |
|  |  | | 3rd answer |
|  |  | | 2nd answer |
|  |  | | 1st answer |
|  |  | | 3.45 kg |
|  | of 48 litres = | | 18 litres |
|  |  | | 2nd answer |
|  |  | | 2.62 |
|  | Increase = 12 toys | | 20% |
|  |  | | 22.68 |
|  |  | | 1st answer |
|  |  | | 3rd answer |
|  |  | |  |
|  |  | | 4th answer |
|  |  | | 3rd answer |
|  |  | | 4th answer |
|  |  | | 25 000 |

|  |  |  |  |  |
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| Year 8 | | *Rational Numbers* | Calculator Allowed  Short Answer  Section | |
| ANSWERS | | | | |
| No. | WORKING | | | ANSWER |
|  |  | | | Any 8 sections. |
|  | 37.2579 = 37.26 | | | 37.26 |
|  |  | | |  |
|  |  | | | 0.09 |
|  |  | | |  |
|  |  | | | 1st answer |
|  | In the number 13.2187, the 8 is in the 3rd decimal place which is thousandths | | | 4th answer |
|  |  | | |  |
|  |  | | | 3rd answer |
|  | Numerators are all 1, so largest denominator is the smallest fraction. | | |  |
|  | 0.002, 0.125, 0.150, 1.200, 2.150. | | | 0.002, 0.125, 0.15, 1.2, 2.15. |
|  | 1 minute and 15 seconds = 60+15 = 75 seconds  Fraction = | | |  |
|  | a)  b) | | | a) = b) > |
|  |  | | | 4.225 litres |
|  |  | | | 2nd answer |
|  |  | | | 0.17 kg |
|  |  | | | $25 600 |
|  |  | | | 1st answer |
|  |  | | | $724.75 |
|  |  | | | In order as shown |
|  |  | | | 1st Answer |
|  |  | | | 2nd answer |
|  |  | | | 2nd answer |
|  |  | | | 1st answer |