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| *School Name*  *Mathematics Test 2017* | | | |
| Year 8 | | *Volume* | Non Calculator  Section |
| **Skills and Knowledge Assessed:**   * Draw different views of prisms and solids formed from combinations of prisms (ACMMG161) * Choose appropriate units of measurement for area and volume and convert from one unit to another (ACMMG195) * Develop the formulas for volumes of rectangular and triangular prisms and prisms in general. Use formulas to solve problems involving volume (ACMMG198) * Calculate the ~~surface area~~ ~~and~~ volume of cylinders and solve related problems (ACMMG217) Extension | | | 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. | | | |
|  | What name could be given to the solid below?  Hexagonal prism  Hexagonal pyramid  Octagonal prism.  Octagonal pyramid. | | |
|  | What name would be given to a solid whose net is shown below? | | |
|  | A cube has a side length of 5 cm?  What is its volume?  25 cm3  50 cm3  125 cm3  250 cm3 | | |
|  | What is the volume of the rectangular prism? | | |
|  | Find the volume of the triangular prism shown.  240 cm3  920 cm3  1020 cm3  1200 cm3 | | |
|  | A garbage skip bin is in the shape of a trapezoidal prism.  It is 2 m deep and 4 m long. It is 1.6 m wide at the top and 1.4 m wide at the bottom  What is its volume in cubic metres?  12 m3  18 m3  24 m3  36 m3 | | |
|  | The prism has a rhombus as its base.  What is its volume?  30 cm3  90 cm3  270 cm3  540 cm3 | | |
|  | A trophy is a prism with a kite as its cross-section with the dimensions shown.  What is its’ volume?  300 cm3  600 cm3  750 cm3  1 200 cm3 | | |
|  | A prism is shown, whose cross-section is a parallelogram.  What is the volume of the prism? | | |
|  | What is the volume of the solid shown? | | |
|  | What is the volume of the cylinder in terms of  ? | | |
|  | A storage shed is shown at right.  Find the volume of the shed?  800 m3  960 m3  1280 m3  1600 m3 | | |
|  | A building has the dimensions shown.  What is its volume? | | |
|  | A prism is made up of cubes which have 2 cm edges, as shown.  What is the volume of the prism? | | |
|  | A food package is in the form of a trapezoidal prism on top of a rectangular prism.  The dimensions are shown.  Find the volume of the package. | | |

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| Year 8 | | *Volume* | 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. | | | |
|  | Which diagram shows the three-dimensional view of the solid whose top and side views are shown below. | | |
|  | Which solid below could be described as a pyramid? | | |
|  | What is the volume of the rectangular prism? | | |
|  | The cross section of the prism shown is 125 cm2.  What is the volume of the prism? | | |
|  | What is the volume of the prism shown in cm3?  90 cm3  120 cm3  180 cm3  360 cm3 | | |
|  | What is the volume of the prism shown in m3?  2.1 m3  210 m3  21 000 m3  2 100 000 m3 | | |
|  | Find the volume of the trapezoidal prism shown. | | |
|  | What is the volume of the triangular prism shown?  5 400 cm3  10 800 cm3  11 700 cm3  21 600 cm3 | | |
|  | Each diagonal of a square prism is 16 cm in length and the prism is 25 cm long.  What is the volume of the prism?  (Remember that a square is also a rhombus.) | | |
|  | What is the volume of the cylinder, correct to the nearest 100 mm3? | | |
|  | What is the volume of the rectangular prism whose net is shown here? | | |
|  | What is the volume of this cylindrical tin?  Answer correct to the nearest cm3. | | |
|  | An irregular hexagonal prism has the dimensions shown.  Calculate the volume of the prism in cubic metres. | | |
|  | A cylindrical container has a diameter of 16 cm and is 32 cm high.  It is currently three-quarters full of water.  Given that 1000 cm3 holds 1 litre, how many litres of water does the container currently hold? (to the nearest 10th of a litre.) | | |
|  | The cross section of this prism is a semi-circle atop a rectangle.  Find the volume of the prism correct to the nearest cubic centimetre. | | |

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ANSWERS

| Question | Working and Answer |
| --- | --- |
|  | **It is a Hexagonal pyramid.** |
|  | **A square prism** |
|  | **3rd Answer** |
|  |  |
|  | **4th Answer** |
|  | **1st Answer** |
|  | **3rd Answer** |
|  | **2nd Answer** |
|  |  |
|  |  |
|  | **2nd Answer** |
|  | **3rd Answer** |
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ANSWERS

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| --- | --- |
| Question | Working and Answer |
|  | 3rd shape has half of a cylinder on top of a rectangular prism, which from above appears as a rectangle and the side as two rectangles.  **3rd Answer** |
|  | Only the 2nd is a pyramid.  **2nd Answer** |
|  |  |
|  |  |
|  | **3rd Answer** |
|  | **1st Answer** |
|  |  |
|  | **2nd Answer** |
|  |  |
|  | **2nd Answer** |
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