FINAL EXAM REVIEW #6

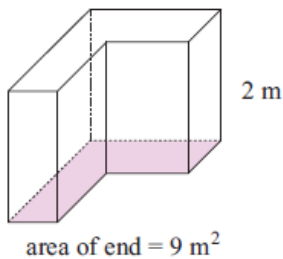| NUMBER THEORY	ALGEBRA	GEOMETRY LINES AND ANGLES	MEASUREMENT
INTEGERS, POWERS, AND ROOTS	RATIO, PROPORTION	COORDINATE GEOMETRY	STATISTICS√
	PERCENT		PROBABILITY

<u>Work through all the questions below and check answers at the end of the worksheet. If you have any question with this section, please ask during the next class time or come to consultation.</u>
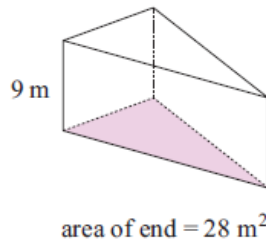
VOLUME AND CAPACITY
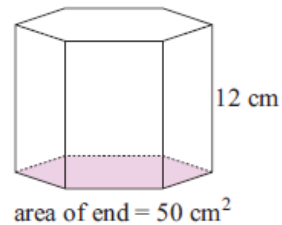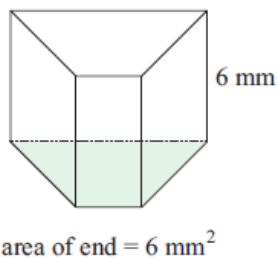
1 Find the volumes of the following solids:

a

2 m

area of end = 9 m^2

b

9 m

area of end = 28 m^2

c

12 cm

area of end = 50 cm^2

d

6 mm

area of end = 6 mm^2

e

7.5 m

area of end = 12 m^2

f

17 cm

area of end = 30 cm^2
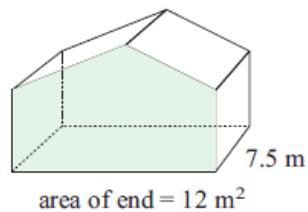
2 A solid of uniform cross-section has end area 42.5 cm^2 and volume 348.5 cm^3. How long is the solid?

3 Find the volumes of the following solids:

a

b

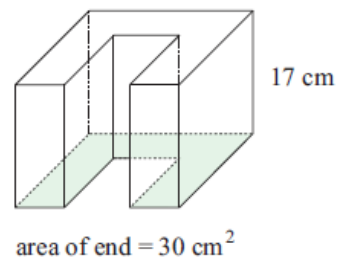**c**
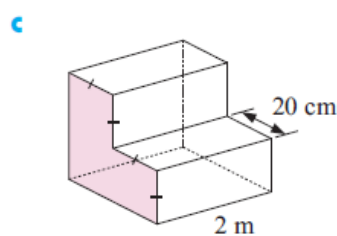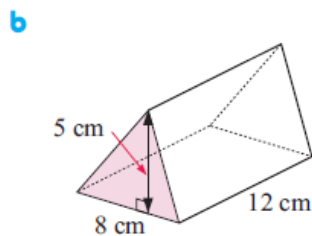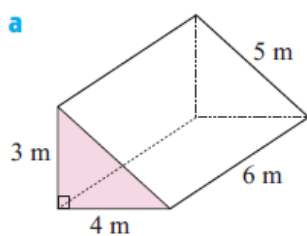
4 An empty garage has floor area 80 m² and a roof height of 4 m. Find the volume of air in the garage.

5 Each month a rectangular swimming pool 6 m by 5 m by 2 m deep costs $0.50 per cubic metre of water to maintain. How much will it cost to maintain the pool for one year?

6 Concrete costs €128 per cubic metre. What will it cost to concrete a driveway 20 m long and 3 m wide to a depth of 12 cm?

7 64 cartons of paper are delivered to your school. Each carton measures 40 cm by 30 cm by 25 cm. Is it possible to fit all the cartons into a storage cupboard 1 m by 1 m by 2 m? Explain your reasoning, using a diagram if you wish.
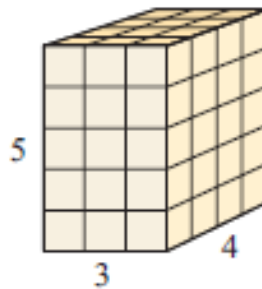
CAPACITY

1 A container is 20 cm by 10 cm by 10 cm. Find:

   a the volume of space in the container in cm³

   b the capacity of the container in mL

   c the capacity of the container in litres.

2 A rectangular container has dimensions 8 cm by 7 cm by 20 cm. Find its capacity in L.

3 A rectangular water tank has dimensions 4 m by 4 m by 2 m. Find its capacity in kL.

4 A rectangular petrol tank has dimensions 50 cm by 40 cm by 25 cm. How many litres of petrol are needed to fill it?

5 A water trough has triangular cross-section as shown. Its length is 2 m. Find:

   a the area of the triangle in cm²

   b the volume of space in the trough in cm³

   c the capacity of the trough in:

      i litres   **ii** kilolitres.

6 A swimming pool has the dimensions shown. It has a cross-section in the shape of a trapezium. Find:

   a the area of the trapezium in m²

   b the capacity of the swimming pool in ML.

2

7 A kidney-shaped swimming pool has surface area 15 m² and a constant depth of 2 metres. Find the capacity of the pool in kilolitres.

8 A lake has an average depth of 6 m and a surface area of 35 ha. Find its capacity in ML.

<p align="center">ANSWERS</p>

VOLUME

1 **a** 18 m³   **b** 252 m³   **c** 600 cm³   **d** 36 mm³
   e 90 m³   **f** 510 cm³

2 8.2 cm   **3** **a** 36 m³   **b** 240 cm³   **c** 0.24 m³

4 320 m³   **5** $360

6 €921.60

7 No, greatest number
   is 60 cartons.

CAPACIY

1 **a** 2000 cm³   **b** 2000 mL   **c** 2 litres

2 1.12 litres   **3** 32 kL   **4** 50 litres

5 **a** 1500 cm²   **b** 300 000 cm³   **c** **i** 300 L   **ii** 0.3 kL

6 **a** 40 m²   **b** 0.32 ML   **7** 30 kL   **8** 2100 ML