

HSC General Mathematics
Assignment 1

To be completed on A4 paper
Show all working out

DUE: 14 Feb.

- 1) Sketch the graph of $y = 3x - 5$
- 2) A map has a scale of 1 : 3 000 000. How many kilometres are represented by 14.9 cm?
- 3) Mark Philippoussis' tennis serve has been clocked at 225 km/h. What is this in metres per second?
- 4) Find the volume of a cylinder with diameter 10 m and height 6 m (correct to 1 decimal place) ($V = \pi r^2 h$)
- 5) Solve $x + 8 = 3x - 2$
- 6) Increase 600 mL by 4%
- 7) A survey at Banksmeadow TAFE showed that 23% of students drive to the college each day.
 - a) What is the ratio of students that drive to the college to those who do not?
 - b) If 1001 students do not drive to the college, how many do?
 - c) Of the students that do not drive to college, the ratio of those travelling by train and bus is 6 : 5. How many catch the train?
- 8) A bus travels 792 km in 11 hours.
 - a) How far will it travel in 24 hours at the same average speed?
 - b) How long will it take to travel 252 km at the same average speed?
 - c) What is the average speed of the bus for this trip?
- 9) Find the dividend yield at 8% of 4500 shares with a current market value of \$11.40
- 10) The angle of elevation to the top of a tree from a point 10 m out from the base is $32^{\circ}29'$. Calculate the height of the tree to 1 decimal place.