





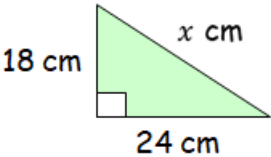









<b>Name:</b>	<b>Date:</b>
<p><b>1</b> Increase 400 kilograms by 37%.</p> 	<p> MNU 407a Bronze Outcome 2</p> 
<p><b>2</b> A hot air balloon travels 16.8 miles over a 2 hours 48 mins time period.</p>  <p>What was its average speed?</p>	<p> MNU 410a Silver Outcome 3</p> 
<p><b>3</b> Calculate the length of the side marked <math>x</math> in the triangle below.</p> 	<p> MTH 416a Bronze Outcome 2</p> 
<p><b>4</b> Find the 'n<sup>th</sup>' term for the following sequence and hence find the 10<sup>th</sup> term;</p> <p>3, -4, -11, ...</p>	<p> MTH 413a Gold Outcome 1</p>
<p><b>5</b> It takes 4 men 15 hours to fix a road. How long would it take 6 men working at the same rate?</p> 	<p> MNU 408a Silver Outcome 1</p>
<b>My score:</b>	



# Exam Questions

## Question 1:

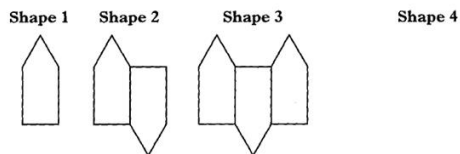
Factorise  $12z + 18$ . 2



MTH 414b Bronze Outcome 1

## Question 2:

Sandra is working on the design for a bracelet.  
She is using matches to make each shape.



- (a) Draw shape 4. 1  
(b) Complete the following table. 2

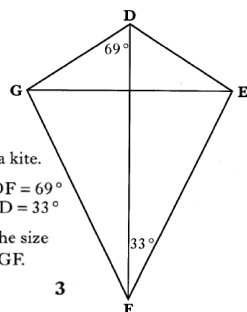
Shape number ( $s$ )	1	2	3	4	5	6		13
Number of matches ( $m$ )	5	9			21			

- (c) Find a formula for calculating the number of matches, ( $m$ ), when you know the shape number, ( $s$ ). 2  
(d) Which shape number uses 61 matches? 2  
**You must show your working.**



MTH 413a Bronze Outcome 1

## Question 3:



DEFG is a kite.

- Angle GDF =  $69^\circ$
- Angle EFD =  $33^\circ$

Calculate the size of angle DGF.

3



MTH 417a Bronze Outcome 1

## Question 4:

Solve algebraically the equation

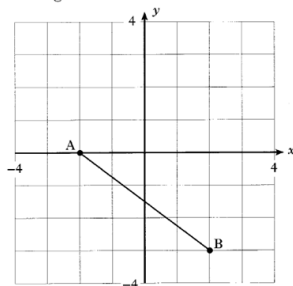
$$17y - 12 = 3y + 44. \quad 3$$



MTH 415a Silver Outcome 1

## Question 5:

- (a) Write down the coordinates of the points A and B marked on this diagram. 2



- (b) Calculate the length of the line joining A to B.  
Do not measure with a ruler.  
You must show your working. 4



MTH 416a Bronze Outcome 1



My score: