Name:	Date:
Question 1: Evaluate; $2\frac{2}{7} - 1\frac{1}{2}$	APP 1·3b Gold Outcome 1
Question 2: Solve **algebraically** the system of equations; $10x + 3y = 19$ $5x + 2y = 1$	REL 1·1d Gold Outcome 1
Question 2: Calculate the discriminant and determine the nature of the roots for the following quadratic equation. $x^2 + 2x + 11 = 0$	REL 1·3b Bronze Outcome 1
Question 4: Multiply out the following brackets and collect like terms; $(4x - 9)(x^2 - 3x + 10)$	E+F 1·2a Gold Outcome 3
Question 5: This sector has an arc length of 13·89 metres and a diameter of 8 metres.  What is the size of the angle in the centre? 	E+F 1·4b Gold Outcome 1
My score:	

Exam Questions

Question 1:

APP 1·3a Bronze Outcome 2

Olga normally runs a total distance of 28 miles per week.

She decides to increase her distance by 10% a week for the next four weeks.

How many miles will she run in the fourth week? **3**

Question 2:

REL 1·1e Silver Outcome 1

$W = BH^2$.

Change the subject of the formula to H. **2**

Question 3:

E+F 1·1b Bronze Outcome 1

E+F 1·1b Bronze Outcome 2

Simplify $k^8 \times (k^2)^{-3}$. **2**

Question 4:

APP 1·4 Silver Outcome 2

A new central heating system is installed in a house.
Sample temperatures, in degrees Celsius, are recorded below.

19 21 23 21 19 20

(*a*) For this sample data, calculate:
(i) the mean; **1**
(ii) the standard deviation. **3**
Show clearly all your working.

The target temperature for this house is 20 °Celsius.
The system is judged to be operating effectively if the mean temperature is within 0·6 °Celsius of the target temperature **and** the standard deviation is less than 2 °Celsius.

(*b*) Is the system operating effectively?
Give reasons for your answer. **2**

Question 5:

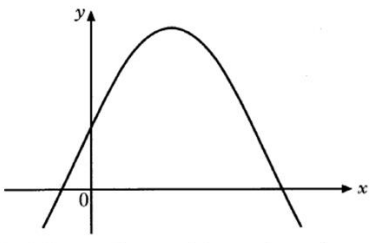
REL 1·2 Gold Outcome 3

(*a*) Factorise $7 + 6x - x^2$. **2**

(*b*) Hence write down the roots of the equation

$$7 + 6x - x^2 = 0.$$ **1**

(*c*) The graph of $y = 7 + 6x - x^2$ is shown in the diagram.



Find the coordinates of the turning point. **3**

My score: