## Algebra Excellence Practice.

1. Two numbers have a sum of 34 and a difference of 8 .

What are the two numbers?
2. Two railway bridges have a total length of 435 m . One bridge is 78 M longer that the other. Calculate the length of the shorter bridge.
3. A cell phone company charges a connection fee each month and users also pay for the total time that have used. This is charged by the minute. In August a user paid $\$ 16$ for a total of 6 minutes use.
In September the same user paid $\$ 29$ for a total of 32 minutes use. Find out the monthly connection fee and charge per minute.
4. Kevin buys seven tickets to the Rugby World Cup for two adults and five children. The total cost of the tickets is $\$ 140$. A child's ticket costs $\$ 7$ less than an adult's ticket. Calculate the cost of an adult's ticket.
5. The sides of a rectangle are $(x+1)$ and $(x+9)$ metres. If the area is $20 \mathrm{~m}^{2}$, calculate the lengths of the sides.
6. A woman is 22 years older than her daughter. Their ages multiply to 135 . Calculate the mother's age.
7. Three more than a number is added to the square of the same number and the total is 9 . Find the two possible numbers.
8. Two consecutive numbers multiply to give 156 . Find the numbers.
9. Two consecutive even whole numbers have a product of 168 . What are the two numbers?
10. Two consecutive multiples of 3 have a product of 378 . Find the numbers.
11. Find the two positive and negative numbers whose difference is 7 and whose product is 228 .

