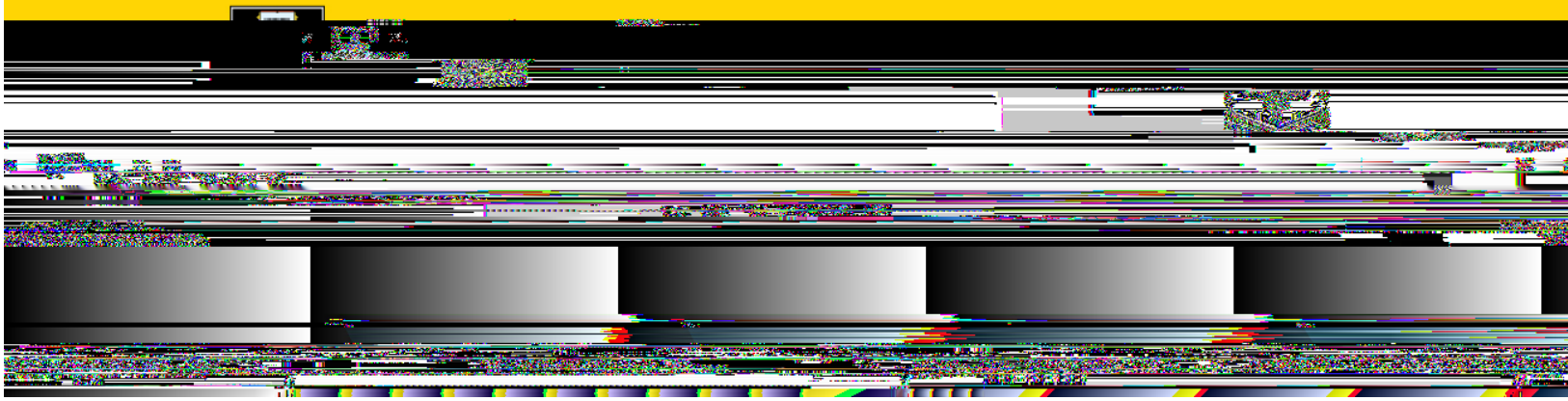

Solution Sheet 7, June 9, 2012

Answers

1. 2 (6)^2

2. 249 - count the number of 5's

3. (a) Take the point on the axis of symmetry of the parabola. This is a maximum or a minimum.

   (b) $\frac{c^4}{2}$

4. (a) take $x = y$ and $z = x + 1$, this is true for all integers x.

5. (a) Area ABC = Area ADC + Area BDC

   (b) By cos rule, cos(72°) = x=8, where x = 2 $2\sqrt{5}$. Since cos(72°) > 0, cos(72°) = $\frac{-1+\sqrt{5}}{4}$.

   (c) As above, cos(36°) = $\frac{-1+\sqrt{5}}{4}$