## **8B Divisibility Proof By Induction**

1. Prove, by induction, that 3^2n + 11 is divisible by 4 for all positive integers  $n \in \mathbb{Z}^+$ 

2. Prove, by induction, that the expression 'n<sup>3</sup> – 7n + 9' is divisible by 3 for all positive integers  $n \in \mathbb{Z}^+$ 

| 3. | Prove, by induction, that the expression '11 <sup>n+1</sup> + 12 <sup>2n-1</sup> ' is divisible by 133 for all positive integers $n \in \mathbb{Z}^+$ |
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