

MATHEMATICS ENRICHMENT CLUB.¹
Problem Sheet 9, July 26, 2012

1. How many ways can we change \$1.00 into coins of 5,10,20 and/or 50 cents?

a: 46 *b:* 47 *c:* 48 *d:* 49 *e:* 50:

2. (a) What number is one less than 11010000 in base 3?

(b) What is the decimal representation of 220200_3 ?

3. If we expand $(2 + x)^{18}$ as a polynomial we obtain

$$(2 + x)^{18} = a_0 + a_1x + a_2x^2$$