

HOMEWORK 21

① $\mu(n)$:

$\mu(1) = 1$	$\mu(6) = 1$	$\mu(11) = -1$	$\mu(16) = 0$
$\mu(2) = -1$	$\mu(7) = -1$	$\mu(12) = 0$	$\mu(17) = -1$
$\mu(3) = -1$	$\mu(8) = 0$	$\mu(13) = -1$	$\mu(18) = 0$
$\mu(4) = 0$	$\mu(9) = 0$	$\mu(14) = 1$	$\mu(19) = -1$
$\mu(5) = -1$	$\mu(10) = 1$	$\mu(15) = 1$	$\mu(20) = 0$

$M(n)$:

$M(1) = 1$	$M(6) = -1$	$M(11) = 0$	$M(16) = 1$
$M(2) = 0$	$M(7) = -2$	$M(12) = 0$	$M(17) = 0$
$M(3) = -1$	$M(8) = -2$	$M(13) = -1$	$M(18) = 0$
$M(4) = -1$	$M(9) = -2$	$M(14) = 0$	$M(19) = -1$
$M(5) = -2$	$M(10) = -1$	$M(15) = 1$	$M(20) = -1$

②

$4 = 2+2$	$14 = 7+7$	$24 = 7+17$
$6 = 3+3$	$16 = 11+5$	$26 = 3+23$
$8 = 5+3$	$18 = 11+7$	$28 = 23+5$
$10 = 5+5 = 7+3$	$20 = 17+3$	$30 = 23+7$
$12 = 7+5$	$22 = 11+11$	

③ $(3, 5)$ $(5, 7)$ $(11, 13)$ $(17, 19)$

④

$2 \Rightarrow [1]$	$19 \Rightarrow [58, 29, 88, 44, 22, 11, 34, 17, 52, 26, 13, 40,$
$3 \Rightarrow [10, 5, 16, 8, 4, 2, 1]$	$20, 10, 5, 8, 4, 2, 1]$
$4 \Rightarrow [2, 1]$	$20 \Rightarrow [10, 5, 8, 4, 2, 1]$
$5 \Rightarrow [16, 8, 4, 2, 1]$	
$6 \Rightarrow [3, 10, 5, 16, 8, 4, 2, 1]$	
$7 \Rightarrow [22, 11, 34, 17, 52, 26, 13, 40, 20, 10, 5, 16, 8, 4, 2, 1]$	
$8 \Rightarrow [4, 8, 1]$	
$9 \Rightarrow [28, 14, 7, 22, 11, 34, 17, 52, 26, 13, 40, 20, 10, 5, 8, 4, 2, 1]$	
$10 \Rightarrow [5, 16, 8, 4, 2, 1]$	
$11 \Rightarrow [34, 17, 52, 26, 13, 40, 20, 10, 5, 16, 8, 4, 2, 1]$	
$12 \Rightarrow [6, 3, 10, 5, 16, 8, 4, 2, 1]$	
$13 \Rightarrow [40, 20, 10, 5, 16, 8, 4, 2, 1]$	
$14 \Rightarrow [7, 22, 11, 34, 17, 52, 26, 13, 40, 20, 10, 5, 16, 8, 4, 2, 1]$	
$15 \Rightarrow [46, 23, 70, 35, 106, 53, 160, 80, 40, 20, 10, 5, 16, 8, 4, 2, 1]$	
$16 \Rightarrow [8, 4, 2, 1]$	
$17 \Rightarrow [52, 26, 13, 40, 20, 10, 5, 16, 8, 4, 2, 1]$	
$18 \Rightarrow [9, 28, 14, 7, 22, 11, 34, 17, 52, 26, 13, 40, 20, 10, 5, 8, 4, 2, 1]$	