(1) What are the invertible elements in
   (a) \( \mathbb{Z} \)?
   (b) \( \mathbb{Z}[i] \)?
   (c) \( \mathbb{Z}_7 \)?
   (d) \( \mathbb{Z}_{12} \)?
   (e) \( \mathbb{Z}_{20} \)?
   (f) \( \mathbb{Z}_{101} \)?

(2) Factor these numbers into primes in \( \mathbb{Z} \).
   (a) 68
   (b) 113
   (c) 600
   (d) 1414

(3) Write as the sum of two squares if possible.
   (a) 13
   (b) 15
   (c) 17
   (d) 19
   (e) 29
   (f) 203
   (g) 77
   (h) 85

(4) Factor these numbers into primes in \( \mathbb{Z}[i] \).
   (a) 11
   (b) 13
   (c) 15
   (d) 17
   (e) 63
   (f) 73

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