Q1: 17 March (Shift 1) - Numerical

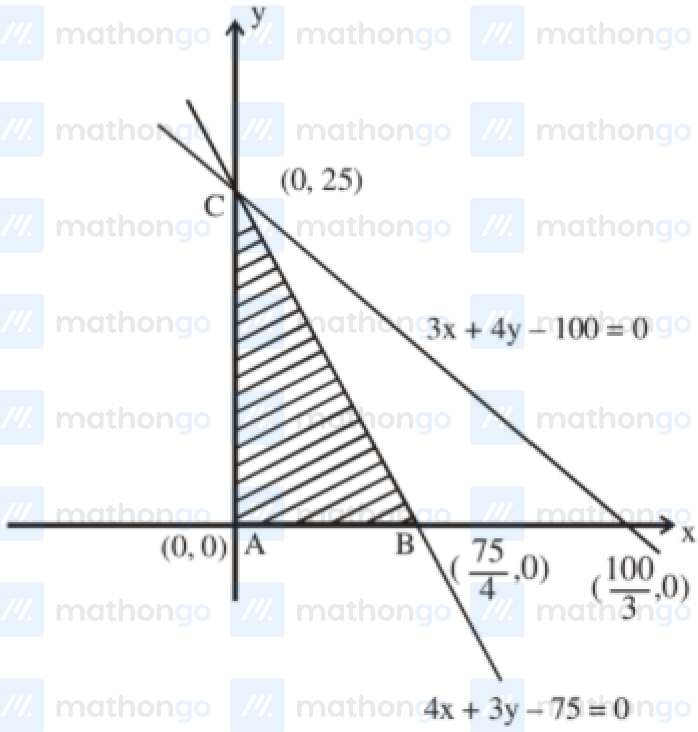
The maximum value of z in the following equation $z = 6xy + y^2$, where $3x + 4y \le 100$ and $4x + 3y \le 75$ for $x \ge 0$ and $y \ge 0$ is ____

(Round off to the Nearest Integer)

Answer Key

Q1 (904)

Q1 (904)



$z = 6xy + y^2 = y(6x + y)$

$3x + 4y \leq 100$

$4x + 3y \leq 75$

$x \leq (i)$

$Z \leq \frac{1}{2}\left(225y - 7y^2\right) \leq \frac{(225)^2}{2\times4\times7}$

$= \frac{50625}{56}$

≈ 904.0178

≈ 904.02

It will be attained at $y = \frac{225}{14}$