

# Assignment 1

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**Abstract**—This document contains the solution for Assignment 1 (ICSE Class 10 Maths 2017 Q.5(b))

**5(b) [ICSE 10 2017]** : How much should a man invest in ₹ 50 shares selling at ₹ 60 to obtain an income of ₹ 450, if the rate of dividend declared is 10%? Also find his yield percent, to the nearest whole number.

**Solution:** Let the number of shares the man buys be  $x$ . If the shares are worth  $r$  and the dividend is  $d$ , then the income is given by  $x \times r \times d$ .

The various parameters involved in this question are listed in the table below:

Parameter	Formula	Value
number of shares	$x$	?
value of shares	$r$	50
cost of shares	$c$	60
rate of dividend	$d$	10%
annual income	$x \times r \times d$	450
investment	$x \times c$	?
yield percent	$\frac{\text{income}}{\text{investment}} \times 100$	?

TABLE 0.1

Since the man is investing in ₹ 50 shares with a 10% rate of dividend, here,  $d = 0.1$  and  $r = 50$ . Therefore, the income he gets equals

$$x \times 50 \times 0.1 = 5x$$

For an income of ₹ 450, we must have

$$5x = 450$$

$$x = 90$$

Therefore, the man purchases 90 shares, and must invest

$$x \times c = 90 \times 60 = \boxed{\text{₹ } 5400}$$

The yield percent is given by  $\frac{\text{income}}{\text{investment}} \times 100$  and therefore equals

$$\frac{450}{5400} \times 100 = 8.33\% \approx \boxed{8 \%}$$