

# ARMY BURN HALL COLLEGE FOR GIRLS ABBOTTABAD

## ENTRANCE TEST: MATHEMATICS 2022

NAME: \_\_\_\_\_

CLASS: PJC

TOTAL MARKS: 60

TIME: 1 HOUR

**Attempt any "SIX" questions. All questions carry equal marks**

**Q1:** Solve the following.

a) Expand and simplify [5]

$$(2x + 3)(5x - 4) - 3(2x - 3)(x + 1)$$

b) Factorize  $4c^2 + 10c + 4$  completely [5]

**Q2:** Given that function  $f: x \rightarrow 5x - 9$ ,  $g: x \rightarrow 2 - 6x$ . Find the value of  $x$ .

a)  $f(x) = 10$  [5]

b)  $3f(x) = 2g(x)$  [5]

**Q3:** Expand the following by using Identity

a)  $(2n - 4)^2$  [5]

b)  $(7)^2 - (2u)^2$  [5]

**Q4:** Solve the following.

a) The total surface area of a cube is  $433.5\text{cm}^2$ . Find its volume. [5]

b) Express the following. [5]

$$4m^3 \text{ Into } cm^3$$

**Q5:** A solid is made up of a cylinder of diameter 10cm and height 3cm. and another bigger cylinder of diameter 25cm and height 2cm.

Find:

i. The Volume [5]

ii. The total surface area of the solid. [5]

**Q6:** The surface area of each face of a cube is  $(x^2 + 4x + 4)$ .

Find:

a) The length [5]

b) The volume of cube [5]

**Q7:** Find the

a) Volume [5]

b) Surface area of given prism [5]