N5

SPTA
N5 Homework
Mixed 5

St Peter the Apostle
High School
COMPASSION AND HOPE

Show all working – Calculator required for Qu 5 & 7 only.

Marks

1. Change the subject of $Q = \dfrac{3P^2 + 5}{T}$ to P (3)
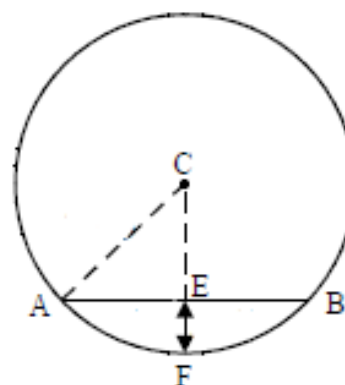
2. **a)** Simplify: $\sqrt{32} + 3\sqrt{2} - \sqrt{50}$ **(b)** Rationalise the denominator of $\dfrac{6\sqrt{2}}{5\sqrt{3}}$ (4)

3. Simplify: **(a)** $\dfrac{3x^3 \times 4x^5}{6x^2}$ **(b)** $m^{\frac{2}{3}}\left(m^{\frac{4}{3}} - m^{-\frac{2}{3}}\right)$ **(c)** $27^{\frac{2}{3}}$ (6)

4. Solve $3(2x - 5) + 1 = 4(x + 2)$ (2)

5. The diagram shows a circle with centre C and radius 2.5m.

   AB is a chord of length 4m. Calculate the length of EF.

   (3)

6. Simplify the following: **(a)** $\dfrac{4x+3}{3} - \dfrac{2x-1}{4}$ **(b)** $\dfrac{2x^2 + 5x - 3}{(x+3)(x-1)}$ (4)

7. A human body can contain 3.41×10^{13} red blood cells.
   Humans have about 5.5 litres of blood in their system.
   How many red blood cells are there in 1 litre of blood? (3)

   Total Marks: 25