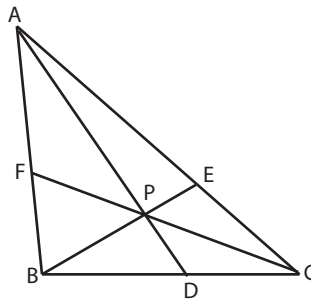


Practice Fermat Number 2

- If $a = -2$, $b = 3$, and $c = 5$, then the value of $(a - b - c)^2$ is
a) -100 b) 0 c) 16 d) 36 e) 100
- If 3 numbers are such that the ratio $(x + y) : (y + z) : (z + x) = 5 : 11 : 12$ then the ratio $x : y$ equals:
a) $5:8$ b) $6:5$ c) $7:4$ d) $2:1$ e) $3:2$
- If A is the smallest positive integer such that the product $28A$ is a perfect cube then
a) $30 < A < 40$ b) $40 < A < 50$ c) $50 < A < 60$ d) $60 < A < 70$ e) $70 < A$
- If $(mx + 7)(5x + n) = px^2 + 15x + 14$ for all x , calculate the total $m + n + p$.
a) -58 b) -20 c) 16 d) 20 e) 62
- The pyramid $ABCD O$ has a square base $ABCD$ and 4 lateral faces ABO , BCO , CDO and DAO which are equilateral triangles. Determine $\angle ACO$ (in degrees).
a) 30 b) 37.5 c) 45 d) 60 e) 75
- If $x + y = 1$ and $x^2 + y^2 = 21$ determine xy
a) -20 b) -10 c) 10 d) 16 e) 20
- In triangle ABC the points D , E and F are chosen on BC , CA and AB respectively so that AD , BE and CF meet at point P inside the triangle. If the areas of triangles $PBD = 27$, $PDC = 18$, $PCE = 20$ and $PEA = 40$, what is the area of triangle ABC ?



- a) 95 b) 120 c) 144 d) 180 e) 195
- If $a^2b^3 = 72$ and $a^3b^2 = 108$ determine the product ab .
a) $\sqrt[3]{224}$ b) 6 c) $4\sqrt{2}$ d) 8 e) $\sqrt[6]{7776}$
- In how many different ways can one make exactly \$10 some nickels, dimes and quarters if there are to be 110 coins in total?
a) 21 b) 22 c) 23 d) 24 e) 25
- How many integers x satisfy the equation $(x^2 - x - 1)^{(x^2 - 7x + 12)} = 1$.
a) 2 b) 3 c) 4 d) 5 e) 6