



Test in/ Examen de : Mathematics.

Name/Le nom : _____

Class/ La Classe: 9th - Grade

Time / La durée : _____

Date / La date: 1st - Trial

2016 - 2017.

1st - exercise:

$$1. \quad p \times q = \frac{1 + \frac{1}{2}}{3} \quad ; \quad p + q = \frac{\sqrt{48}}{\sqrt{27}} + \frac{2}{3}$$

$$= \frac{\frac{3}{2}}{3} \quad ; \quad = \sqrt{\frac{4^2 \times 3}{3^2 \times 3}} + \frac{2}{3}$$

$$\boxed{p \times q = \frac{1}{2}} \quad ; \quad = \frac{4}{3} + \frac{2}{3}$$

$$p^2 + q^2 = (p + q)^2 - 2pq$$

$$= (2)^2 - 2\left(\frac{1}{2}\right)$$

$$= 3. \quad \text{(b)}$$

$$2. \quad E = \frac{1}{5} - \left(\frac{2}{5}\right)^2 \quad ; \quad F = (2 - \sqrt{5})^2 + 2(8 + \sqrt{20})$$

$$= \frac{1 \times 5}{5 \times 5} - \frac{4}{25} \quad ; \quad = 4 - 4\sqrt{5} + 5 + 16 + 4\sqrt{5}$$

$$\boxed{E = \frac{1}{25}} \quad ; \quad \boxed{F = 25}$$

$$G = \sqrt{108} - 3\sqrt{12} - 5\sqrt{25}$$

$$= \sqrt{3 \times 6^2} - 3\sqrt{3 \times 2^2} - 5 \times 5^2$$

$$\boxed{G = -25}$$

Since $E \times F = 1$, then E & F are reciprocals. (a)

3) 3 is a root of $p(x)$

means, $p(3) = 0$.

$$\text{So, } p(3) = (a+1)(3)^2 + (3-3)(3+5)$$

$$0 = (a+1) \times 9$$

Thus, $a = -1$ (c)