

1st Trial: (2011-2012)

9th Grade

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1st exercise

Correction-standards

Excellent
Job

$$\begin{aligned} 1) \quad & 3.\overline{7} \\ & n = 3.7 \\ & 10n = 37.\overline{7} \\ & 9n = 34 \\ & n = \frac{34}{9} \end{aligned}$$

which is between $\frac{31}{9} > \frac{34}{9} > \frac{35}{9}$ (c)

2) the degree of the product of 2 polynomials is the sum of their highest degree.
So, the degree of the product of $P(u)$ and $Q(u)$ is $3+3=6$. (c)

$$\begin{aligned} 3) \quad & \sqrt{\frac{9}{n^2} + \frac{6}{n} + 1} = \sqrt{\left(\frac{3}{n}\right)^2 + 2\left(\frac{3}{n}\right)(1) + 1} \\ & = \sqrt{\left(\frac{3+n}{n}\right)^2} \quad \text{but } n < -3 \\ & = -\frac{3+n}{n} \quad \text{(b)} \\ & = \frac{3+n}{n} \quad \text{So } \frac{3+n}{n} > 0 \end{aligned}$$

$$\begin{aligned} 4) \quad & x = \frac{1^5}{1^5} + \frac{1}{2} \times \frac{4}{5} \\ & x = \frac{2 \times 5}{1 \times 5} + \frac{4}{5} = \frac{5+8}{5} = \frac{13}{5} = \frac{1}{5} \times \frac{5}{4} = \frac{1}{2} \end{aligned}$$

$$y = \frac{\sqrt{18} + \sqrt{18}}{\sqrt{200}} = \frac{\sqrt{3^2 \times 2} + \sqrt{2^2 \times 2}}{\sqrt{2 \times 10^2}} = \frac{3\sqrt{2} + 2\sqrt{2}}{10\sqrt{2}} = \frac{5\sqrt{2}}{10\sqrt{2}} = \frac{1}{2}$$

So $x=y=\frac{1}{2}$ (a)

P=1