

TOÁN NÂNG CAO NỀN TẢNG CHUYÊN LỚP 7
HƯỚNG DẪN BÀI TẬP VỀ NHÀ
Liên hệ đăng kí học Toán trực tuyến : 0932393956

CA 1

Câu 1: Tìm x biết

1) $2024 : [25 - (3x + 2)] = 2^3 \cdot 11$

2) $\frac{1.2 + 2.3 + 3.4 + \dots + 99.100}{x^2 + (x^2 + 1) + (x^2 + 2) + \dots + (x^2 + 99)} = 50 \frac{116}{131}$

$$\begin{aligned} 1) 2024 : [25 - (3x + 2)] &= 2^3 \cdot 11 \\ 2024 : [25 - (3x + 2)] &= 88 \\ 25 - (3x + 2) &= 23 \\ 3x + 2 &= 25 - 23 \\ 3x + 2 &= 2 \\ 3x &= 0 \\ x &= 0 \end{aligned}$$

Vậy $x = 0$

$$\begin{aligned} \text{Đặt } A &= 1.2 + 2.3 + 3.4 + \dots + 99.100 \\ 3A &= 1.2.3 + 2.3.(4-1) + 3.4.(5-2) + \dots + 99.100.(101-98) \\ 3A &= 1.2.3 + 2.3.4 - 1.2.3 + 3.4.5 - 2.3.4 + \dots + 99.100.101 - 98.99.100 \\ 3A &= 99.100.101 \end{aligned}$$

$$A = 333300$$

$$\begin{aligned} \text{Đặt } B &= x^2 + (x^2 + 1) + (x^2 + 2) + \dots + (x^2 + 99) = 100x^2 + (1 + 2 + 3 + \dots + 99) \\ &= 100x^2 + 4950 \\ \Rightarrow \frac{333300}{100x^2 + 4950} &= 50 \frac{116}{131} = \frac{6666}{131} \\ \Rightarrow \frac{50}{100x^2 + 4950} &= \frac{1}{131} \Rightarrow 100x^2 + 4950 = 50.131 \Rightarrow x^2 = 16 \Rightarrow x = \pm 4 \end{aligned}$$

Vậy $x = 4$ hoặc $x = -4$

CA 2

Câu 2: Tính $B = \frac{3}{1.2} - \frac{5}{2.3} + \frac{7}{3.4} - \dots - \frac{201}{100.101}$

HD:

$$B = \left(1 + \frac{1}{2}\right) - \left(\frac{1}{2} + \frac{1}{3}\right) + \left(\frac{1}{3} + \frac{1}{4}\right) - \dots - \left(\frac{1}{100} + \frac{1}{101}\right) = 1 - \frac{1}{101} = \frac{100}{101}$$

Câu 3: Tính $A = 3 \cdot \frac{1}{1.2} - 5 \cdot \frac{1}{2.3} + 7 \cdot \frac{1}{3.4} - \dots + 15 \cdot \frac{1}{7.8} - 17 \cdot \frac{1}{8.9}$

HD:

$$A = \frac{1}{1} + \frac{1}{2} - \frac{1}{2} - \frac{1}{3} + \frac{1}{3} + \frac{1}{4} - \dots + \frac{1}{7} + \frac{1}{8} - \frac{1}{8} - \frac{1}{9} \Rightarrow A = \frac{1}{1} - \frac{1}{9} \Rightarrow A = \frac{8}{9}$$

VINASTUDY.VN