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) $\dfrac{1.2+2.3+3.4+....+99.100}{x^2+\left(x^2+1\right)+\left(x^2+2\right)+.....+\left(x^2+99\right)}=50\dfrac{116}{131}$

HD:

1) $2024:[25-(3x+2)]=2^3.11$

$2024:[25-(3x+2)]=88$

$25-(3x+2)=23$

$3x+2=25-23$

$3x+2=2$

$3x=0$

$x=0$

Vậy $x=0$

Đặt $A=1.2+2.3+3.4+....+99.100$

$3A=1.2.3+2.3.(4-1)+3.4.(5-2)+.....+99.100.(101-98)$

$3A=1.2.3+2.3.4-1.2.3+3.4.5-2.3.4+.....+99.100.101-98.99.100$

$3A=99.100.101$

$A=333300$

Đặt $B=x^2+\left(x^2+1\right)+\left(x^2+2\right)+.....+\left(x^2+99\right)=100x^2+(1+2+3+.....+99)$

$=100x^2+4950$

$\Rightarrow \dfrac{333300}{100x^2+4950}=50\dfrac{116}{131}=\dfrac{6666}{131}$

$\Rightarrow \dfrac{50}{100x^2+4950}=\dfrac{1}{131}\Rightarrow 100x^2+4950=50.131\Rightarrow x^2=16\Rightarrow x=\pm 4$

Vậy x = 4 hoặc x = - 4

Câu 2: Tìm số tự nhiên x biết: $x:\left(\frac{1}{1.2}+\frac{1}{2.3}+\frac{1}{3.4}+\ldots+\frac{1}{99.100}\right)=100$

HD:

$$x:\left(\frac{1}{1.2}+\frac{1}{2.3}+\frac{1}{3.4}+\ldots+\frac{1}{99.100}\right)=100$$

$$x:\left(\frac{1}{1}-\frac{1}{2}+\frac{1}{2}-\frac{1}{3}+\frac{1}{3}-\ldots+\frac{1}{99}-\frac{1}{100}\right)=100$$

$$x:\left(1-\frac{1}{100}\right)=100$$

$$x:\frac{99}{100}=100$$

$$x=99$$

Câu 3: Tìm số tự nhiên x biết $\frac{3}{35}+\frac{3}{63}+\frac{3}{99}+\ldots+\frac{3}{x(x+2)}=\frac{24}{35}$.

HD:

$$\frac{3}{35}+\frac{3}{63}+\frac{3}{99}+\ldots+\frac{3}{x(x+2)}=\frac{24}{35}\Rightarrow\frac{3}{5.7}+\frac{3}{7.9}+\frac{3}{9.11}+\ldots+\frac{3}{x(x+2)}=\frac{24}{35}$$

$$\Rightarrow\frac{3}{2}\left[\frac{2}{5.7}+\frac{2}{7.9}+\frac{2}{9.11}+\ldots+\frac{2}{x(x+2)}\right]=\frac{24}{35}.$$

$$\Rightarrow\frac{3}{2}\left(\frac{1}{5}-\frac{1}{x+2}\right)=\frac{24}{35}\Rightarrow\frac{1}{5}-\frac{1}{x+2}=\frac{24}{35}\cdot\frac{2}{3}\Rightarrow\frac{1}{5}-\frac{1}{x+2}=\frac{16}{35}$$

$$\Rightarrow\frac{1}{5}-\frac{1}{x+2}=\frac{24}{35}\cdot\frac{2}{3}\Rightarrow\frac{1}{5}-\frac{1}{x+2}=\frac{16}{35}\Rightarrow\frac{1}{5}-\frac{16}{35}=\frac{1}{x+2}\Rightarrow x=\frac{-53}{9}$$