Mathematics 1, lecture 2

See the webcast!

→ questions about the webcast: discussion Board

$$\frac{896 \cdot 897 - 897}{895} \rightarrow \text{simplify}$$

$$\frac{897(896-1)}{895}$$

$$\frac{897\cancel{(895)}}{\cancel{895}} = 897$$

$$\frac{35 - 34 \cdot 35}{35 \cdot 33 - 33 \cdot 34} = \frac{35(1-34)}{33(35-34)} = \frac{35(1-35)}{33(1)} =$$

$$\boxed{\frac{1}{\frac{1}{2}} = 1 \cdot 2 = 2}$$

$$\boxed{\frac{1}{\left(\frac{6}{5}\right)} = \frac{5}{6}}$$

$$4^0 - (0{,}4)^{-1} + \frac{3}{2} + 4 \cdot 4^{-1}$$

$$1 - \left(\frac{4}{10}\right)^{-1} + \frac{3}{2} + 4 \cdot \frac{1}{4}$$

$$1 - \frac{1}{\frac{4}{10}} + \frac{3}{2} + 1$$

$$1 - \frac{10}{4} + \frac{3}{2} + 1$$

$$\frac{7}{2} - \frac{10}{4} = \frac{14}{4} - \frac{10}{4} = \frac{4}{4} = 1$$

$$64 \cdot 32^{-\frac{3}{5}}$$

$$64 \cdot (2^5)^{\frac{-3}{5}}$$

$$64 \cdot 2^{-3}$$

$$\frac{64}{8} = 8$$

$$\boxed{\begin{array}{l} (a^p)^q = a^{pq} \\ a^p \cdot a^q = a^{p+q} \end{array}}$$

$$\frac{\left(p^{a}q^{-\beta/2}\right)^{2}}{\left(p^{-2a/3}q^{4\beta/3}\right)^{-3/2}}$$

$$\frac{1}{x-2}-\frac{4}{x^2+3x-10}+\frac{3}{x+5}=0$$

$$\frac{1}{x-2}-\frac{4}{(x-2)(x+5)}+\frac{3}{x+5}=0$$

$$\frac{x+5}{(x-2)(x+5)}-\frac{4}{(x-2)(x+5)}+\frac{3x-6}{(x-2)(x+5)}=0$$

$$\frac{4x-5}{(x-2)(x+5)}=0$$

$4x-5=0$ and $x\neq 2$ and $x\neq -5$

$4x=5$ and $x\neq 2$ and $x\neq -5$

$x=\frac{5}{4}$

$\left(\frac{1}{9}\right)^{x} 9^{3x}=27$ for x

$\left(\frac{1}{9}\right)^{x} 9^{3x}=3^{3}$

$9^{-x}9^{3x}=27$

$9^{2x}=27$

$(3^{2})^{2x}=3^{3}$

$3^{4x}=3^{3}$

$4x=3$

$x=\frac{3}{4}$

$2^{3t}4^{t}=16$ for t

$2^{3t}2^{2t}=2^{4}$

$2^{3t+2t}=2^{4}\rightarrow 2^{5t}=2^{4}$

$5t=4\rightarrow t=\frac{4}{5}$

$$y = C + A^* - M$$
$$C = aY + b$$
$$M = mY + M^*$$

Express y in terms of A^*, M^* and the constant a, b and m

$$y = aY + b + A^* - mY - M^*$$
$$y - aY + mY = b + A^* - M^*$$
$$y(1 - a + m) = b + A^* - M^*$$
$$y = \frac{b + A^* - M^*}{1 - a + m}$$

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