a) $\dfrac{-3-\left[-\frac{8}{2}-50\left(1-\frac{24}{25}\right)\right]}{-4-\left(\frac{1}{2}-1\right)} = \dfrac{-3-\left[-\frac{8}{2}-50\cdot\left(\frac{25}{25}-\frac{24}{25}\right)\right]}{-4-\left(\frac{1}{2}-\frac{2}{2}\right)} =$

$= \dfrac{-3-\left[-\frac{8}{2}-50\cdot\frac{1}{25}\right]}{-4-\left(-\frac{1}{2}\right)} = \dfrac{-3-[-4-2]}{-4+\frac{1}{2}} = \dfrac{-3-[-6]}{-\frac{8}{2}+\frac{1}{2}} =$

$= \dfrac{-3+6}{-\frac{7}{2}} = \dfrac{3}{-\frac{7}{2}} = 3:\dfrac{-7}{2} = -\dfrac{6}{7}$

b) $\dfrac{\left(\frac{2}{5}\right)^{-5}:\left(\frac{2}{5}\right)^{-9}}{\left(\frac{2}{5}\right)^{3}\cdot\left(\frac{5}{2}\right)^{-10}:\frac{5}{2}} = \dfrac{\left(\frac{2}{5}\right)^{-5}:\left(\frac{2}{5}\right)^{-9}}{\left(\frac{2}{5}\right)^{3}\cdot\left(\frac{2}{5}\right)^{10}:\left(\frac{2}{5}\right)^{-1}} = \dfrac{\left(\frac{2}{5}\right)^{-5-(-9)}}{\left(\frac{2}{5}\right)^{3+10-(-1)}} =$

primero pongo todo con la misma base

Ahora me encargo del numerador por un lado y del denominador por otro lado

los paréntesis son importantes

$= \dfrac{\left(\frac{2}{5}\right)^{4}}{\left(\frac{2}{5}\right)^{14}} = \left(\frac{2}{5}\right)^{4-14} = \left(\frac{2}{5}\right)^{-10} = \left(\frac{5}{2}\right)^{10}$

c) $\dfrac{63^2\cdot7^{-3}\cdot(3^4:3^{-2})^4\cdot49^{-2}}{(3+3+1)^2\cdot1323} = \dfrac{(3^2\cdot7)^2\cdot7^{-3}\cdot\left(3^{4-(-2)}\right)^4\cdot(7^2)^{-2}}{7^2\cdot\;3^3\cdot7^2} =$

$63=3^2\cdot7$
$49=7^2$
$3+3+1=7$
$1323=3^3\cdot7^2$

$= \dfrac{3^4\cdot7^2\cdot7^{-3}\cdot3^{24}\cdot7^{-4}}{7^2\cdot3^3\cdot7^2} = \dfrac{3^{28}\cdot7^{-5}}{3^3\cdot7^4} =$

$3^{28-3}\cdot7^{-5-4} = 3^{25}\cdot7^{-9} = \dfrac{3^{25}}{7^9}$

d) $\sqrt{5}+\sqrt{45}+\sqrt{180}-\sqrt{80} = \sqrt{5}+\sqrt{3^2\cdot5}+\sqrt{2^2\cdot3^2\cdot5}-\sqrt{2^4\cdot5} =$

2 veces

$= \sqrt{5}+3\cdot\sqrt{5}+2\cdot3\sqrt{5}-2^2\cdot\sqrt{5} =$

$= \sqrt{5}+3\sqrt{5}+6\sqrt{5}-4\sqrt{5} = 6\sqrt{5}$

Es como si fuese: $x+3x+6x-4x=6x$