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4)

$$a. - 7^{-3} = \frac{1}{7^3} = \frac{1}{343}$$

$$b. - 7^1 = 7$$

$$c. - 7^{-1} = \frac{1}{7}$$

$$d. - (-5)^{-2} = \frac{1}{(-5)^2} = \frac{1}{25}$$

$$e. - (-5)^0 = 1$$

$$f. - (-5)^{-1} = \frac{1}{(-5)^1} = -\frac{1}{5}$$

$$g. - \left(\frac{8}{5}\right)^{-4} = \frac{1}{\left(\frac{8}{5}\right)^4} = \frac{1}{\frac{8^4}{5^4}} = \frac{5^4}{8^4} = \frac{625}{4096}$$

$$h. - \left(\frac{8}{5}\right)^1 = \frac{8}{5}$$

$$i. - \left(\frac{8}{5}\right)^{-1} = \frac{1}{\frac{8}{5}} = \frac{5}{8}$$

$$j. - \left(-\frac{8}{5}\right)^{-5} = \frac{1}{\left(-\frac{8}{5}\right)^5} = \frac{1}{-\frac{8^5}{5^5}} = -\frac{5^5}{8^5} = -\frac{3125}{32768}$$

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$$4) k. - \left(-\frac{8}{5}\right)^0 = 1 \quad // \quad l. - \left(-\frac{8}{5}\right)^{-1} = \frac{1}{-\frac{8}{5}} = -\frac{5}{8}$$

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5) a) no, por ejemplo $2^{-3} = -8$

b) Si, porque es $= 1$

$$6) (0.2)^{-3} = \left(\frac{1}{5}\right)^{-3} = \frac{1}{\left(\frac{1}{5}\right)^3} = \frac{1}{\frac{1^3}{5^3}} = \frac{5^3}{1^3} = 125$$

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7) a) $(8 \cdot 4)^3 = 512 \cdot 64 = 32.768$

b) $[(-1) \cdot (-4)]^3 = (-1)^3 \cdot (-4)^3 = (-1) \cdot (-64) = 64$

c) $\left(\frac{4}{5}\right)^3 = \frac{4^3}{5^3} = \frac{64}{125}$

d) $(6 \cdot 5)^{-2} = \frac{1}{(6 \cdot 5)^2} = \frac{1}{6^2 \cdot 5^2} = \frac{1}{36 \cdot 25} = \frac{1}{900}$

e) $[(-3) \cdot 5]^{-2} = \frac{1}{[(-3) \cdot 5]^2} = \frac{1}{(-3)^2 \cdot 5^2} = \frac{1}{-9 \cdot 25} = \frac{1}{225}$

f) $\left(-\frac{5}{3}\right)^{-2} = \frac{1}{\left(-\frac{5}{3}\right)^2} = \frac{1}{\frac{5^2}{3^2}} = \frac{3^2}{5^2} = \frac{9}{25}$

↑ el signo negativo desaparece, al elevar a potencia n.

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(8) a) $\left(2 \cdot \frac{7}{3}\right)^5 = \left(\frac{14}{3}\right)^5 = \frac{14^5}{3^5} = \frac{537.824}{243}$

b) $\left[\frac{3}{5} \cdot (-10)\right]^{-2} = \left[\frac{-30}{5}\right]^{-2} = (-6)^{-2} = \frac{1}{(-6)^2} = \frac{1}{6^2} = \frac{1}{36}$

(9) a) $\left(\frac{1}{2}\right)^3 = \frac{1}{2^3} = \frac{1}{8} // \frac{1}{8} < \frac{1}{4}$

b) $[2 \cdot (-1)]^4 = (-2)^4 = 2^4 = 16 // 16 > \frac{1}{2}$

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(10) a) $5^4 \cdot 5^6 = 5^{10}$

b) $(-9)^6 : (-9)^2 = 9^4$

c) $\left(\frac{5}{6}\right)^{10} : \left(\frac{5}{6}\right)^6 = \left(\frac{5}{6}\right)^4$

d) $\left[\left(\frac{3}{5}\right)^4\right]^2 = \left(\frac{3}{5}\right)^{4 \cdot 2} = \left(\frac{3}{5}\right)^8$

e) $(2^2)^3 = 2^6 // f) [(-2)^2]^3 = (-2)^6 = 2^6$

g) $\left(-\frac{4}{3}\right)^3 \cdot \left(-\frac{4}{3}\right)^3 = \left(-\frac{4}{3}\right)^6 = \left(\frac{4}{3}\right)^6$

h) $\left(-\frac{4}{3}\right)^3 : \left(-\frac{4}{3}\right)^3 = \left(-\frac{4}{3}\right)^{3-3} = \left(-\frac{4}{3}\right)^0 = 1$

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$$(11) a) (4^3 \cdot 4^2)^3 = (4^5)^3 = 4^{15}$$

$$b) [(-5)^3 : (-5)^2]^2 = (-5^1)^2 = -5^2 = 5^2$$

$$c) [(4^2)^4 \cdot (4^2)^3]^4 = (4^2)^7 = 4^2 \cdot 2^8$$

$$d) (7^{11} : 7^5)^2 = (7^6)^2 = 7^{12}$$

$$e) (7^2 \cdot 9^4)^2 = 7^4 \cdot 9^8$$

$$f) [(-3)^5 \cdot 4^5]^2 = -3^{10} \cdot 4^{10} = 3^{10} \cdot 4^{10}$$

$$(12) a) 2^5 \cdot 4^3 = 2^5 \cdot (2 \cdot 2)^3 = 2^5 \cdot 2^3 \cdot 2^3 = 2^{11}$$

$$b) (3^{-5} \cdot 9^3)^{-2} = (3^{-5} \cdot (3 \cdot 3)^3)^{-2} = (3^{-5} \cdot 3^3 \cdot 3^3)^{-2} = (3^1)^{-2} = 3^{-2} = \frac{1}{3^2}$$

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$$(61) d) \frac{1}{4} - \frac{1}{5} - \boxed{x} = \frac{1}{6} // x = \frac{1}{4} - \frac{1}{5} - \frac{1}{6} = \frac{15}{60} - \frac{12}{60} - \frac{10}{60} = \frac{-7}{60}$$

$$(66) b) \frac{4}{5} : x = \frac{-4}{6} // x = \frac{4}{5} : \frac{-4}{6} = \frac{-24}{20} = \frac{-(2 \cdot 2 \cdot 2 \cdot 3)}{2 \cdot 2 \cdot 5} = \frac{-6}{5}$$

$$(67) b) \left(\frac{4}{5} - \frac{1}{4}\right) \cdot \frac{7}{3} = \left(\frac{16}{20} - \frac{5}{20}\right) \cdot \frac{7}{3} = \frac{11}{20} \cdot \frac{7}{3} = \frac{77}{60}$$