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|---|---|---|---|
| $x^2 \times x^5 = x^7$<br>$x^4 \times x^3 = x^7$ | $2x^5 \times 4x^7 = 8x^{12}$<br>$5x^5 \times 3x^7 = 15x^{12}$ | $x^{-3} \times x^8 = x^5$<br>$x^5 \times x^{-4} = x^1 = x$ | $3x^{-7} \times 2x^{-11} = 6x^{-18}$<br>$4x^{-5} \times 6x^{-8} = 24x^{-13}$ |
| $x^8 \div x^5 = x^3$<br>$x^6 \div x^3 = x^3$ | $x^7 \div x^{-2} = x^9$<br>$x^{-12} \div x^6 = x^{-18}$ | $8x^6 \div 2x^2 = 4x^4$<br>$24x^{-2} \div 4x^{-7} = 6x^5$ | $\frac{12x^5}{2x^{-3}} = 6x^8$ |
| $(x^2)^3 = x^6$<br>$(x^4)^4 = x^{16}$ | $(x^5)^{-6} = x^{-30}$<br>$(x^{-2})^4 = x^{-8}$ | $(2x^2)^3 = 8x^6$<br>$(3x^5)^2 = 27x^{10}$ | $(x^2y^3)^3 = x^6y^9$<br>$(xy^4)^5 = x^5y^{20}$ |
| $(2x^3y^4)^2 = 4x^6y^8$<br>$(5x^2y)^3 = 15x^6y^3$ | $\frac{12x^5y^6}{4x^3y^2} = 3x^2y^4$ | $4x^2y^4 \div 2x^5y^2 = 2x^{-3}y^2$<br>$15x^{-2}y^3 \div 3x^{-7} = 5x^5y^3$ | $\frac{(9x^5y^3)^2}{(3x^5y^3)^3} = \frac{81x^{10}y^6}{27x^{15}y^9} = 3x^{-5}y^{-3}$ |
| $x^a \times x^5 = x^9$<br>a = 4<br>$x^{10} \div x^b = x^2$<br>b = 8<br>$(x^4)^c = x^{20}$<br>c = 5 | Write $16 \times 2^3$ as a power of 2<br>$16 = 2^4$<br>$2^4 \times 2^3 = 2^7$<br>Write $27 \times 81$ as a power of 3<br>$27 = 3^3$<br>$81 = 3^4$<br>$3^3 \times 3^4 = 3^7$ | $10{,}000^a \times 1000^b = 10^c$<br>Show that c = 4a + 3b<br>$10000 = 10^4$<br>$(10^4)^a = 10^{4a}$<br>$1000 = 10^3$<br>$(10^3)^b = 10^{3b}$<br>$10^{4a} \times 10^{3b} = 10^{4a+3b}$<br>$c = 4a + 3b$ | **For more worksheets like this:** |