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POUR RÉUSSIR 75 % ou plus

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NOTE
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Practice quiz on Exponents and Logarithms

TOTAL DES POINTS 12

1. Re write the number $784 = 2 \times 2 \times 2 \times 2 \times 7 \times 7$ using exponents. — 1 / 1 point

- (●) $(2^4)(7^2)$
- ( ) $(2 \times 7)^6$
- ( ) $(2^6)(7^6)$
- ( ) $(16^1)(49^2)$

✓ Correct
For this type of problem, count the number of times each relevant factor appears in the product. That number is the exponent for that factor.

2. What is $(x^2 - 5)^0$? — 1 / 1 point

- ( ) $(x^2) - 5$
- ( ) -4
- (●) 1
- ( ) (x^2)

✓ Correct
Any real number (except zero) raised to the"zeroith" power $= 1$.

3. Simplify $((x-5)^2)^{-3}$ — 1 / 1 point

- ( ) $(x-5)^{-5}$
- ( ) $(x-5)$
- ( ) $(x-5)^{-1}$
- (●) $(x-5)^{-6}$

✓ Correct
By Rule 2, "Power to a Power," multiply the exponents and get:

$(x-5)^{(2\times-3)} = (x-5)^{-6}$

By the definition of negative exponents, this is equal to $\frac{1}{(x-5)^6}$

4. Simplify $(\frac{8^2}{8^7})^2$ — 1 / 1 point

- (●) 8^{-10}
- ( ) 8^{-1}
- ( ) 8^{-5}
- ( ) 8^{-4}

✓ Correct
We can first simplify what is inside the parenthesis to 8^{-5}using the Division and Negative Powers Rule.

Then apply division and negative powers– the result is the same. $\frac{8^4}{8^{14}} = 8^{-10}$

5. $\log 35 = \log 7 + \log x$ — 1 / 1 point

Solve for x

- ( ) 4
- ( ) 7
- (●) 5
- ( ) 28

✓ Correct
$\log(x) = \log 35 - \log 7$

$\log(x) = \log(\frac{35}{7})$

By the Quotient Rule $\log x = \log 5$