Practice Questions for logarithm

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| Question | If log 27 = 1.431, then the value of log 9 is: |
| Option A | 0.934 |
| Option B | 0.945 |
| Option C | 0.954 |
| Option D | 0.958 |
| Answer | Option **C** |
| Explanation | log 27 = 1.431  http://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif log (33 ) = 1.431  http://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif 3 log 3 = 1.431  http://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif log 3 = 0.477  http://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gif log 9 = log(32 ) = 2 log 3 = (2 x 0.477) = 0.954. |

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| Question | If log10 2 = 0.3010, then log2 10 is equal to: |
| Option A | 699/301 |
| Option B | 1000/301 |
| Option C | 0.3010 |
| Option D | 0.6990 |
| Answer | Option B |
| Explanation | log2 10 =1/ log10 2  = 1/0.3010  = 1000/301 |

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| Question | If log10 2 = 0.3010, the value of log10 80 is: |
| Option A | 1.6020 |
| Option B | 1.9030 |
| Option C | 3.9030 |
| Option D | None of these |
| Answer | Option B |
| Explanation | |  |  | | --- | --- | | log10 80 | = log10 (8 x 10) | |  | = log10 8 + log10 10 | |  | = log10 (23 ) + 1 | |  | = 3 log10 2 + 1 | |  | = (3 x 0.3010) + 1 | |  | = 1.9030. | |

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| Question | If log10 5 + log10 (5*x* + 1) = log10 (*x* + 5) + 1, then *x* is equal to: |
| Option A | 1 |
| Option B | 3 |
| Option C | 5 |
| Option D | 10 |
| Answer | Option B |
| Explanation | log10 5 + log10 (5*x* + 1) = log10 (*x* + 5) + 1  http://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif log10 5 + log10 (5*x* + 1) = log10 (*x* + 5) + log10 10  http://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif log10 [5 (5*x* + 1)] = log10 [10(*x* + 5)]  http://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif 5(5*x* + 1) = 10(*x* + 5)  http://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif 5*x* + 1 = 2*x* + 10  http://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif 3*x* = 9  http://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif *x* = 3. |

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| Question | If log 2 = 0.30103, the number of digits in 264 is: |
| Option A | 18 |
| Option B | 19 |
| Option C | 20 |
| Option D | 21 |
| Answer | Option C |
| Explanation | |  |  | | --- | --- | | log (264) | = 64 x log 2 | |  | = (64 x 0.30103) | |  | = 19.26592 |   Its characteristic is 19.  Hence, then number of digits in 264 is 20. |

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| Question | If *ax* = *by*, then: |
| Option A | log = |
| Option B | = |
| Option C | = |
| Option D | None of these |
| Answer | Option C |
| Explanation | *ax* = *by*  http://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif log *ax* = log *by*  http://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif *x* log *a* = *y* log *b*   |  |  |  |  |  | | --- | --- | --- | --- | --- | | http://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif | log *a* | = | *y* | . | | log *b* | *x* | |

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| Question | If log*x* *y* = 100 and log2 *x* = 10, then the value of *y* is: |
| Option A | 210 |
| Option B | 2100 |
| Option C | 21000 |
| Option D | 210000 |
| Answer | Option C |
| Explanation | log 2 *x* = 10     http://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif     *x* = 210.  http://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gif log*x* *y* = 100  http://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif *y* = *x*100  http://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif *y* = (210)100     [put value of *x*]  http://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif *y* = 21000. |

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| Question | The value of log2 16 is: |
| Option A | |  | | --- | | 1 | | 8 | |
| Option B | 4 |
| Option C | 8 |
| Option D | 16 |
| Answer | Option B |
| Explanation | Let log2 16 = *n.*  Then, 2*n* = 16 = 24     http://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif     *n* = 4.  http://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gif log2 16 = 4. |

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| Question | If log **32** x= 0.8, then x is equal to |
| Option A | 25.6 |
| Option B | 16 |
| Option C | 10 |
| Option D | 12. |
| Answer | Option B |
| Explanation | |  | | --- | | log **32** x =0.8. | | **x=(32)0.8** | | ‹=›**(25)4/5** | | ‹=›**24** | | ‹=› 16 | |

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| Question | If logx 4 = 1/4, then x is equal to |
| Option A | 16 |
| Option B | 64 |
| Option C | 128 |
| Option D | 256 |
| Answer |  |
| Explanation | logx 4 = ¼   |  | | --- | | ‹=› x1/4 | | = 4 | | ‹=›**x= 44** | | = 256. | |

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| Question | The value of **log2(log5625)** is |
| Option A | 2 |
| Option B | 5 |
| Option C | 10 |
| Option D | 15 |
| Answer | Option A |
| Explanation | |  |  | | --- | --- | | **Let log5625** | = x. | | Then, 5x | = 625 | | = 54 | | ‹=› x=4. | | **Let log2( log5625)** | = y. | | Then, log 24= y |  | | ‹=› 2y= 4 | | y;2. | |

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| Question | If **( log5 5) (log4 9) (log3 2)** is equal to |
| Option A | 1 |
| Option B | 3/2 |
| Option C | 2 |
| Option D | 5 |
| Answer | Option A |
| Explanation | |  | | --- | | =**log 9/log 4 ×log 2/log 3** | | **‹=› log 3²/log 2²×log 2/log3** | | = 2 log 3/ 2 log 2×log 2/log3 | | = 1. | |

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| Question | **( logba) (logcb) (logac)** is equal to |
| Option A | 0 |
| Option B | 1 |
| Option C | abc |
| Option D | a +b +c |
| Answer | Option B |
| Explanation | |  | | --- | | =(**log a/log b**×**log b/logc**×**logc/log a**) | | = 1. | |

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| Question | If **log 2 = 0.3010** and **log 3 = 0.4771**, the values of **log5 512**is |
| Option A | 2.870 |
| Option B | 2.967 |
| Option C | 3.876 |
| Option D | 3.912 |
| Answer | Option C |
| Explanation | |  | | --- | | = log 512/log 5 | | ‹=›9 log2 /log 10 - log 2 | | =(9 ×0.3010)/(1 - 0.3010) | | ‹=› 2.709/0.699 | | = 3.876. | |

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| Question | The value of **log343 7** is |
| Option A | 1/3 |
| Option B | -3 |
| Option C | -1/3 |
| Option D | 3 |
| Answer | Option A |
| Explanation | |  |  | | --- | --- | | **Let log3437** | = n. | | **Then, 343n** | = 7 | | = (73)n = 7. | | **‹=›**3 n = 1 | | **‹=›**n = 1/3. | | **log343 7** | = 1/3. | |