math Antics Worksheets

Name:

Date:

Exponent Form

A-ITE 1

Instructions: Rewrite each repeated multiplication in exponent form.
(Note: You do NOT need to acctually do the multiplication in these problems.)

1. $2 \times 2 \times 2 \times 2 =$ 2^4
2. $5 \times 5 \times 5 \times 5 =$ 5^4
3. $15 \times 15 =$ 15^2
4. $7 \times 7 \times 7 \times 7 \times 7 =$ 7^5
5. $20 \times 20 \times 20 =$ 20^3
6. $8 \times 8 \times 8 \times 8 \times 8 \times 8 \times 8 =$ 8^7
7. $32 \times 32 \times 32 \times 32 \times 32 =$ 32^5
8. $4 \times 4 \times 4 \times 4 \times 4 \times 4 \times 4 \times 4 \times 4 =$ 4^9
9. $10 \times 10 \times 10 \times 10 \times 10 =$ 10^5
10. $3 \times 3 \times 3 \times 3 \times 3 \times 3 \times 3 \times 3 \times 3 \times 3 =$ 3^{10}
11. $1.6 \times 1.6 \times 1.6 \times 1.6 \times 1.6 =$ 1.6^5
12. $0.5 \times 0.5 \times 0.5 =$ 0.5^3
13. $614 \times 614 \times 614 \times 614 =$ 614^4
14. $11 \times 11 \times 11 \times 11 \times 11 \times 11 \times 11 =$ 11^7
15. $12.4 \times 12.4 =$ 12.4^2

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Calculating "Squares"

A-ITE 2

Instructions: Use a multiplication table to find the value of each "square".

1. $5^2 =$ 25
2. $4^2 =$ 16
3. $6^2 =$ 36
4. $9^2 =$ 81
5. $7^2 =$ 49
6. $1^2 =$ 1
7. $3^2 =$ 9
8. $8^2 =$ 64
9. $10^2 =$ 100
10. $11^2 =$ 121
11. $12^2 =$ 144
12. $0^2 =$ 0

Instructions: Use a calculator to calculate the value of each "square".

1. $15^2 =$ 225
2. $14^2 =$ 196
3. $20^2 =$ 400
4. $16^2 =$ 256
5. $13^2 =$ 169
6. $24^2 =$ 576
7. $30^2 =$ 900
8. $18^2 =$ 324
9. $40^2 =$ 1,600
10. $120^2 =$ 14,400

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Calculating Exponents

A-ITE 3

Instructions: Use a calculator to calculate the value of each exponent. (Note: Try to find a calculator that has the special exponent function (x^y) that we mentioned in the video, but if you can't, then just use the calculator to help you repeat the multiplication.)

1. $2^5 =$ 32
2. $4^3 =$ 64
3. $4^4 =$ 256
4. $3^3 =$ 27
5. $5^3 =$ 125
6. $6^3 =$ 216
7. $2^8 =$ 256
8. $7^3 =$ 343
9. $3^5 =$ 243
10. $10^3 =$ 1,000
11. $8^4 =$ 4,096
12. $5^5 =$ 3,125
13. $2^{10} =$ 1,024
14. $9^3 =$ 729
15. $3^6 =$ 729
16. $12^3 =$ 1,728
17. $15^3 =$ 3,375
18. $11^4 =$ 14,641
19. $6^5 =$ 7,776
20. $3^{10} =$ 59,049

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Powers of Two

A-ITE 4

Instructions: Computers use a number system that has only two digits: 1 and 0. This number system is called "Binary" or "Base-2". Because this number system has only two digits, **powers of two** (which are exponents with 2 as the base) are very important in computer science. On this page, calculate the first ten powers of two.

1. $2^1 = 2 =$ 2
2. $2^2 = 2 \times 2 =$ 4
3. $2^3 = 2 \times 2 \times 2 =$ 8
4. $2^4 = 2 \times 2 \times 2 \times 2 =$ 16
5. $2^5 = 2 \times 2 \times 2 \times 2 \times 2 =$ 32
6. $2^6 = 2 \times 2 \times 2 \times 2 \times 2 \times 2 =$ 64
7. $2^7 = 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 =$ 128
8. $2^8 = 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 =$ 256
9. $2^9 = 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 =$ 512
10. $2^{10} = 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 =$ 1,024