# Zero and negative exponents

Find the value of each. Where there are two powers, write them as one power first.

Name _____ Date _____

1. $5^{6} \times 5^{-8} =$ _____
2. $48^{0} =$ _____
3. $8^{-2} =$ _____
4. $10^{-4} =$ _____
5. $9^{4} \div 9^{7} =$ _____
6. $7^{8} \div 7^{8} =$ _____
7. $8^{2} \times 8^{-4} =$ _____
8. $8^{6} \div 8^{8} =$ _____
9. $2^{-3} =$ _____
10. $8^{-1} =$ _____
11. $2^{-1} =$ _____
12. $7^{5} \times 7^{-8} =$ _____
13. $5^{8} \div 5^{8} =$ _____
14. $10^{-1} =$ _____
15. $2^{4} \times 2^{-6} =$ _____
16. $2^{-6} =$ _____
17. $4^{1} \div 4^{5} =$ _____
18. $6^{-2} =$ _____
19. $5^{6} \div 5^{10} =$ _____
20. $86^{0} =$ _____

# Zero and negative exponents: answer key

Each question worked out, the answer in colour.

1. $5^{6} \times 5^{-8} = 5^{6+(-8)} = 5^{-2} = 1/5^{2} = 1/25$
2. $48^{0} = 1$
3. $8^{-2} = 1/8^{2} = 1/64$
4. $10^{-4} = 1/10^{4} = 1/10{,}000 = 0.0001$
5. $9^{4} \div 9^{7} = 9^{4-7} = 9^{-3} = 1/9^{3} = 1/729$
6. $7^{8} \div 7^{8} = 7^{8-8} = 7^{0} = 1$
7. $8^{2} \times 8^{-4} = 8^{2+(-4)} = 8^{-2} = 1/8^{2} = 1/64$
8. $8^{6} \div 8^{8} = 8^{6-8} = 8^{-2} = 1/8^{2} = 1/64$
9. $2^{-3} = 1/2^{3} = 1/8$
10. $8^{-1} = 1/8$
11. $2^{-1} = 1/2$
12. $7^{5} \times 7^{-8} = 7^{5+(-8)} = 7^{-3} = 1/7^{3} = 1/343$
13. $5^{8} \div 5^{8} = 5^{8-8} = 5^{0} = 1$
14. $10^{-1} = 1/10^{1} = 1/10 = 0.1$
15. $2^{4} \times 2^{-6} = 2^{4+(-6)} = 2^{-2} = 1/2^{2} = 1/4$
16. $2^{-6} = 1/2^{6} = 1/64$
17. $4^{1} \div 4^{5} = 4^{1-5} = 4^{-4} = 1/4^{4} = 1/256$
18. $6^{-2} = 1/6^{2} = 1/36$
19. $5^{6} \div 5^{10} = 5^{6-10} = 5^{-4} = 1/5^{4} = 1/625$
20. $86^{0} = 1$