

1. Write the base of $-(-5)^3$.
2. Evaluate: 6^5
3. Which answer is negative?
 - i) $(-6)^6$
 - ii) $-(6)^6$
 - iii) $-(-6)^6$
4. Evaluate: $(-13)^0$
5. Write $(3 \times 10^4) + (5 \times 10^3) + (7 \times 10^2) + (4 \times 10^1) + (6 \times 10^0)$ in standard form.
6. Which number is the greatest?
 - i) $(5 \times 10^3) + (6 \times 10^2) + (4 \times 10^1) + (7 \times 10^0)$
 - ii) 5645
 - iii) $(5 \times 10^3) + (7 \times 10^2) + (8 \times 10^0)$
 - iv) 5780
7. Write the product of $5^3 \times 5^4$ as a single power.
8. Write $[(-4) \times (-5)]^3$ as a product of powers.
9. Write $\left(\frac{11}{9}\right)^5$ as a quotient of powers.

9. Write $\left(\frac{11}{9}\right)^5$ as a quotient of powers.
10. Write $[(-7) \times 3]^4$ as a product of powers.
11. Write $\left(\frac{7}{3}\right)^3$ as a quotient of powers.
12. Evaluate: $[(-5)^0]^3$
13. Simplify, then evaluate. $(2^4 \times 2^2)^2$
14. Write the base and the exponent of this power: $(-5)^6$
15. Write $-(-4) \times (-4) \times (-4) \times (-4) \times (-4)$ as a power, then evaluate the power.
16. Write 4865 using powers of 10.
17. State which operation you would do first to evaluate $(-4)^2 + 3 \times 7$.
18. State which operation you would do first to evaluate $(6)^0 + [10 + (-2)]^2 - 2$.
19. Evaluate: $70 \times 2^2 + 80 \times 3^2 \times 0.75$

31. Simplify. $\frac{[(-14)^9]^7}{[-(-14)^4]^3}$

18. State which operation you would do first to evaluate $(6)^0 + [10 + (-2)]^2 -$

19. Evaluate: $70 \times 2^2 + 80 \times 3^2 \times 0.75$

20. Identify, then correct, any errors in the work below.

$$\begin{aligned} &(5 + 3)^2 \times 4 + 5 \\ &= 8^2 \times 9 \\ &= 64 \times 9 \\ &= 576 \end{aligned}$$

21. Write the product of $7^6 \times 7^7$ as a single power.

22. Write the product of $(-6)^6 \times (-6)^7$ as a single power.

23. Write the quotient of $\frac{(-7)^9}{(-7)^5}$ as a single power.

24. Evaluate: $3^3 \times 3^4 - 3^5 \times 3$

25. Simplify, then evaluate.

$$(-2)^4 \times (-2)^6 + (-2)^6$$

26. Simplify, then evaluate.

$$\frac{(-2)^6 \times (-2)^2}{(-2)^3 \times (-2)^0}$$

27. Evaluate: $5^2 + 6^3 + 5^2 + 6^3 + 5^2 + 6^3$

26. Simplify, then evaluate.

$$\frac{(-2)^6 \times (-2)^2}{(-2)^3 \times (-2)^0}$$

27. Evaluate: $5^2 + 6^3 + 5^2 + 6^3 + 5^2 + 6^3$

28. Simplify, then evaluate.

$$\frac{(2^4)^3 \times (2^2)^4}{(2^4 \times 2^4)^2}$$

29. Simplify, then evaluate.

$$(4^6 \div 4^3)^2 - (2^8 \div 2^6)^2$$

30. Simplify, then evaluate.

$$\left[(-2)^4 \times (-2)^3 \right] - \left[(-3)^4 \div (-3)^3 \right]$$

$$4)^2 + 3 \times 7.$$
$$^0 + [10 \div (-2)]^2 - 2.$$

31. Simplify. $\frac{[(-14)^9]^7}{[-(14)^4]^3}$

standard form.

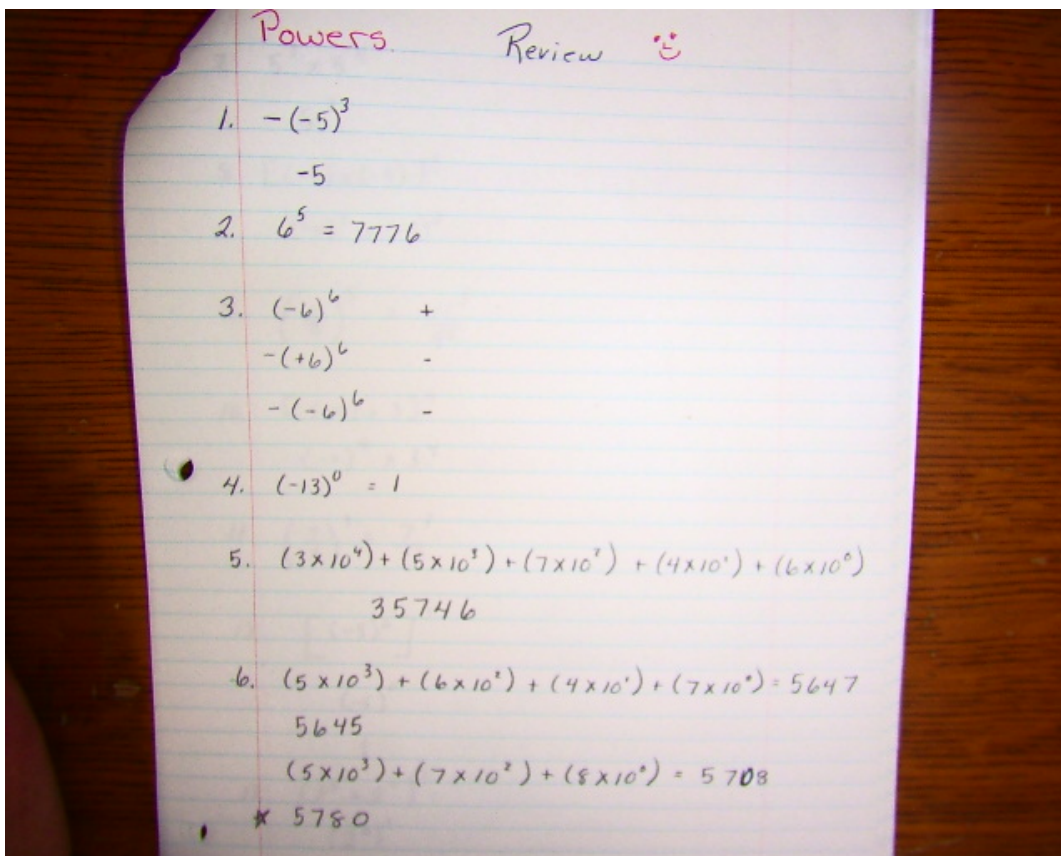
32. Evaluate: $2^4 \times 3^3 \times 5^2$

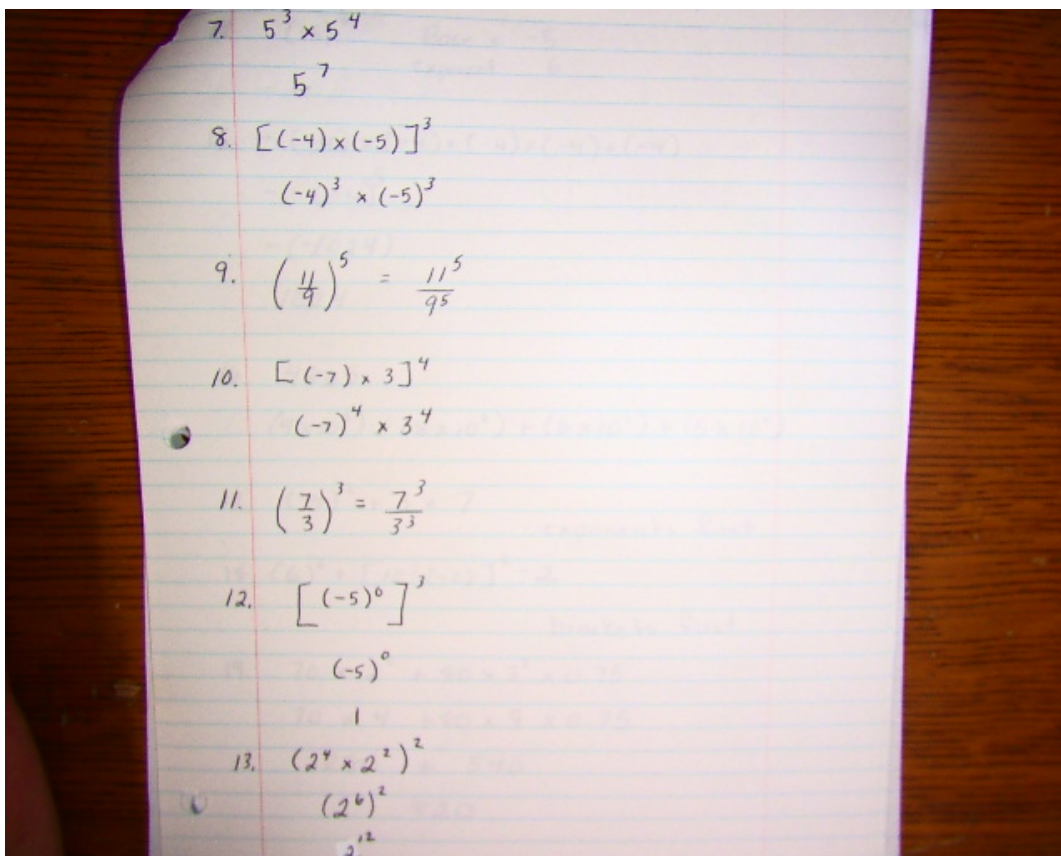
33. Evaluate: $(7)^5 + (-5)^4 - (6)^2$

34. A square has area $250\,000\text{ cm}^2$. Write the side length as a power of 10. Determine the side length in metres.

35. A rectangle has side lengths of 10^6 and 10^8 .

Write the expression to show the area and the perimeter for the rectangle.





7. $5^3 \times 5^4$
 5^7

8. $[(-4) \times (-5)]^3$
 $(-4)^3 \times (-5)^3$

9. $\left(\frac{11}{9}\right)^5 = \frac{11^5}{9^5}$

10. $[(-7) \times 3]^4$
 $(-7)^4 \times 3^4$

11. $\left(\frac{7}{3}\right)^3 = \frac{7^3}{3^3}$

12. $[(-5)^0]^3$
 $(-5)^0$
1

13. $(2^4 \times 2^2)^2$
 $(2^6)^2$
 2^{12}

14. $(-5)^6$ Base = -5
exponent 6

15. $-(-4) \times (-4) \times (-4) \times (-4) \times (-4)$
 $-(-4)^5$
 $-(-1024)$
1024

16. 4865
 $(4 \times 10^3) + (8 \times 10^2) + (6 \times 10^1) + (5 \times 10^0)$

17. $(-4)^2 + 3 \times 7$ exponents first

18. $(6)^0 + [10 \div (-2)]^2 - 2$
brackets first

19. $70 \times 2^2 + 80 \times 3^2 \times 0.75$
 $70 \times 4 + 80 \times 9 \times 0.75$
280 + 540
820

$$\begin{array}{l} 20. (5+3)^2 \times 4 + 5 \\ 8^2 \times \textcircled{9} \text{ mistake} \\ 64 \times 9 \\ 576 \end{array} \left\{ \begin{array}{l} (5+3)^2 \times 4 + 5 \\ 8^2 \times 4 + 5 \\ 64 \times 4 + 5 \\ 256 + 5 \\ 261 \end{array} \right.$$

$$21. 7^6 \times 7^7 \\ 7^{13}$$

$$22. (-6)^6 \times (-6)^7 \\ (-6)^{13}$$

$$23. \frac{(-7)^9}{(-7)^5} \\ (-7)^4$$

$$24. 3^3 \times 3^4 - 3^5 \times 3 \\ 3^7 - 3^6 \\ 2187 - 729 \\ 1458$$

$$\begin{aligned} 25. \quad & (-2)^4 \times (-2)^6 \div (-2)^6 \\ & (-2)^{10} \div (-2)^6 \\ & (-2)^4 \\ & = 16 \end{aligned}$$

$$\begin{aligned} 26. \quad & \frac{(-2)^6 \times (-2)^2}{(-2)^5 \times (-2)^6} \\ & \frac{(-2)^8}{(-2)^{11}} \\ & (-2)^{-3} \\ & -32 \end{aligned}$$

$$\begin{aligned} 27. \quad & 5^2 + 6^3 + 5^2 + 6^3 + 5^2 + 6^3 \\ & 25 + 216 + 25 + 216 + 25 + 216 \\ & 723 \end{aligned}$$

$$\begin{aligned} 28. \quad & \frac{(2^4)^3 \times (2^2)^4}{(2^4 \times 2^4)^2} \\ & \frac{2^{12} \times 2^8}{(2^8)^2} \\ & \frac{2^{12} \times 2^8}{2^{16}} = \frac{2^{20}}{2^{16}} = 2^4 = 16 \end{aligned}$$

$$\begin{aligned}
 29. & (4^6 \div 4^3)^2 - (2^8 \div 2^6)^2 \\
 & (4^3)^2 - (2^2)^2 \\
 & 4^6 - 2^4 \\
 & 4096 - 16 \\
 & 4080
 \end{aligned}$$

$$\begin{aligned}
 30. & [(-2)^4 \times (-2)^3] - [(-3)^4 \div (-3)^3] \\
 & (-2)^7 - (-3)^1 \\
 & -128 - -3 \\
 & -125
 \end{aligned}$$

$$\begin{aligned}
 31. & \frac{[(-14)^9]^7}{[(-14)^4]^3} \\
 & \frac{(-14)^{63}}{(-14)^{12}} \\
 & (-14)^{51}
 \end{aligned}$$

$$\begin{aligned}
 32. & \frac{2^4 \times 3^3 \times 6^2}{16 \times 27 \times 25} \\
 & \frac{10800}{10800}
 \end{aligned}$$

$$33. \quad (-7)^5 + (-5)^4 - (6)^2$$

$$16807 + 625 - 36$$

$$17432 - 36$$

$$\cancel{17432} - 36$$

$$17396$$

$$34. \quad \begin{array}{|c|} \hline \square \\ \hline \end{array} \quad A = 250\,000$$

$$_ \times _ = 250\,000$$

$$500 \times 500$$

$$5 \times 10^2 \times 5 \times 10^2$$

$$35. \quad \begin{array}{|c|} \hline 10^8 \\ \hline \square \\ \hline \end{array} \quad \begin{array}{l} \text{Area} = L \times W \\ = 10^8 \times 10^6 \\ = 10^{14} \end{array}$$

$$\text{Perimeter} = s + s + s + s \\ = 10^8 + 10^6 + 10^8 + 10^6$$