Power Review

Review for Chapter 2 Test

1. Write the base of $-(-5)^3$. Evaluate
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

5. Write $(3 \times 10^4) + (5 \times 10^3) + (7 \times 10^2) + (4 \times 10^1) + (6 \times 10^0)$ in s

6. Which number is the greatest?
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   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 $\left[(-4) \times (-5)\right]^3$ as a product of powers.

9. Write $\left(\frac{11}{9}\right)^5$ as a quotient of powers.

10. Write $\left[(-7) \times 3\right]^4$ as a product of powers.

11. Write $\left(\frac{7}{3}\right)^3$ as a quotient of powers.

12. Evaluate: $\left[(-5)^0\right]^3$

13. Simplify, then evaluate. $\left(2^4 \times 2^2\right)^2$

14. Write the base and the exponent of this power: $(-5)^6$ Evaluate.

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

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

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

$(5+3)^2 \times 4 + 5$

$= 8^2 \times 9$

$= 64 \times 9$

$= 576$

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

$= 8^2 \times 9$

$= 64 \times 9$

$= 576$

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.
$(-2)^4 \times (-2)^6 \div (-2)^6$

26. Simplify, then evaluate.

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

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

28. Simplify, then evaluate.

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

29. Simplify, then evaluate.

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

30. Simplify, then evaluate.

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

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

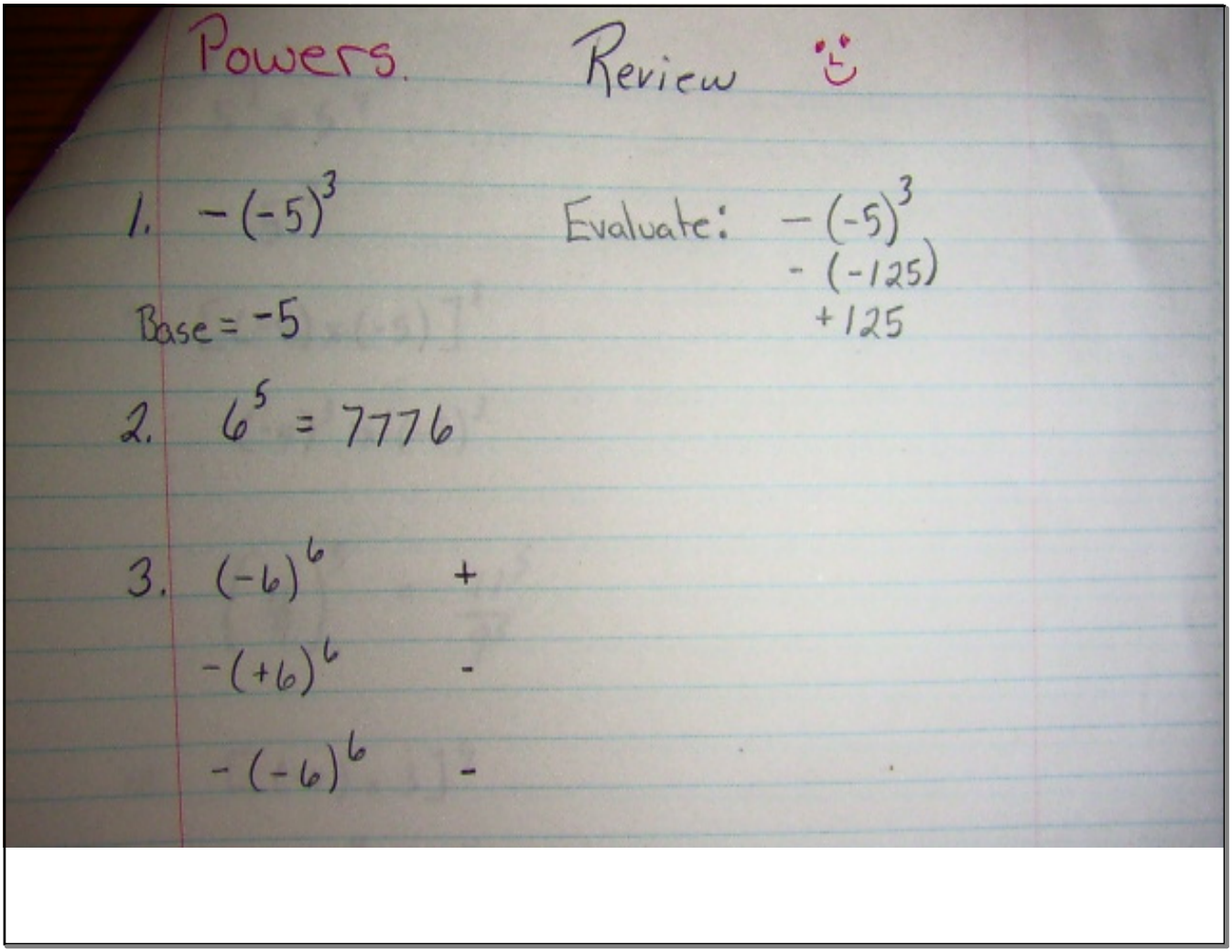
32. Evaluate: $2^4 \times 3^3 \times 5^2$

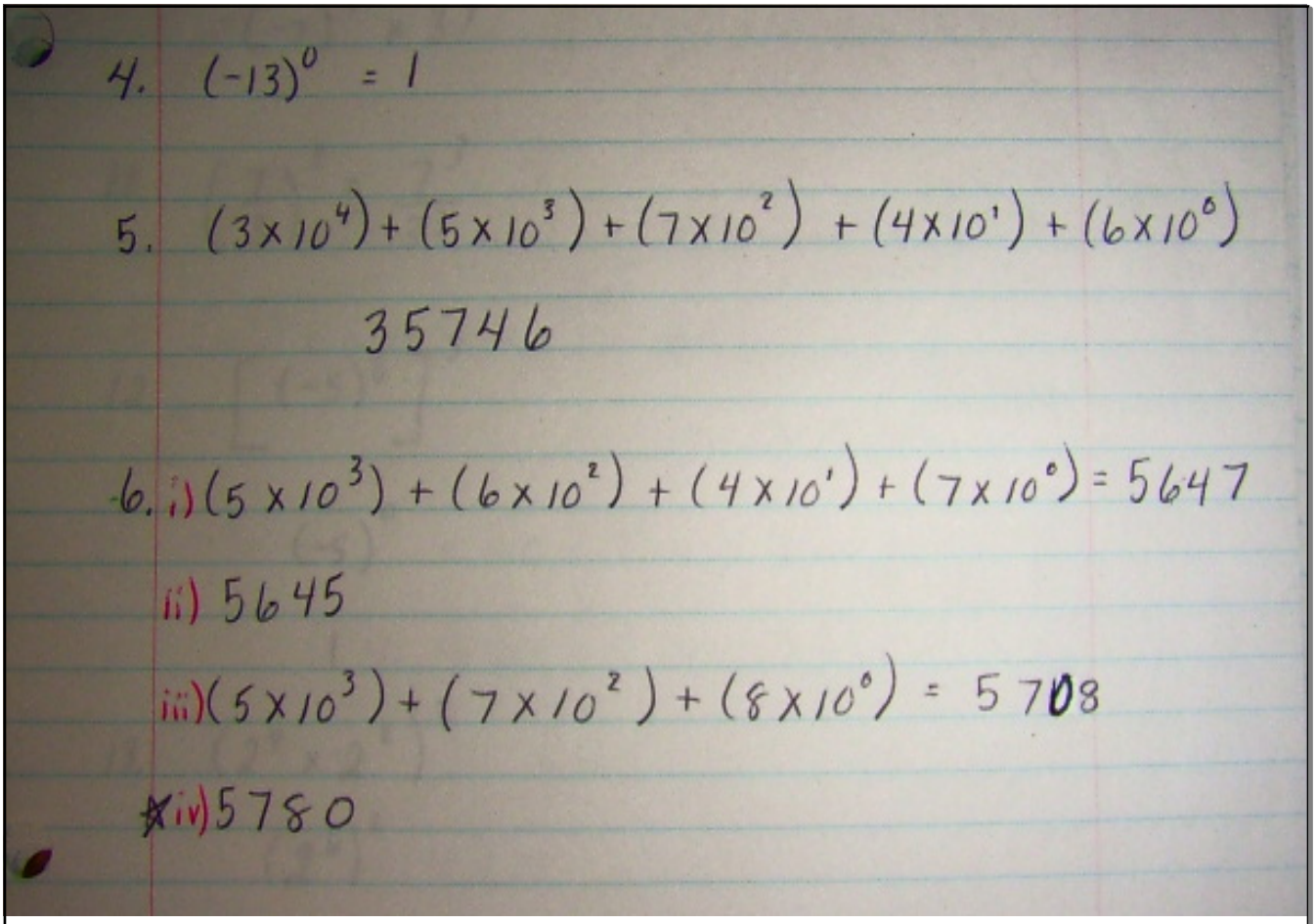
33. Evaluate: $(7)^5 + (-5)^4 - (6)^2$

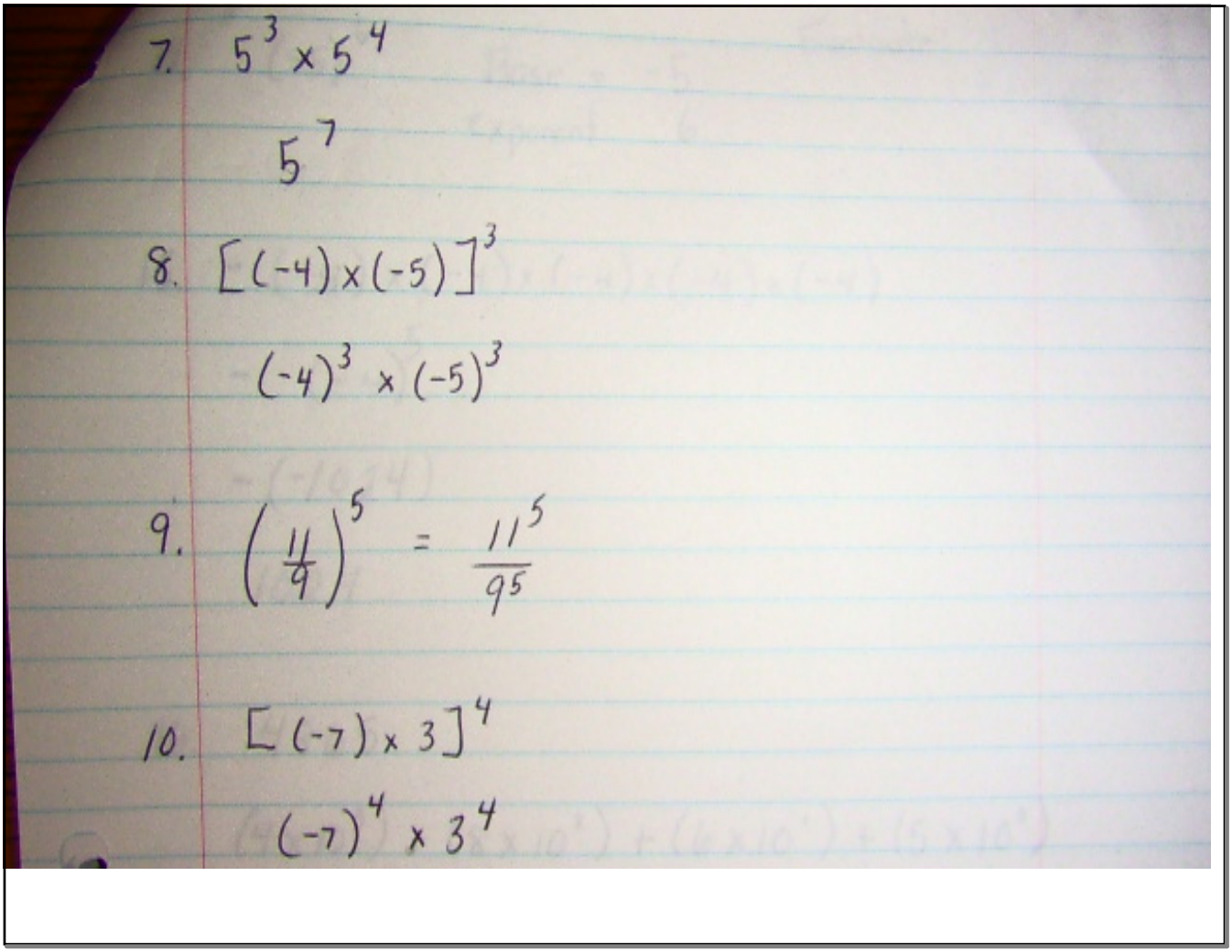
34. A square has area 250 000 cm^2. Write the side length as a power of 10. Determine the side length in metres.

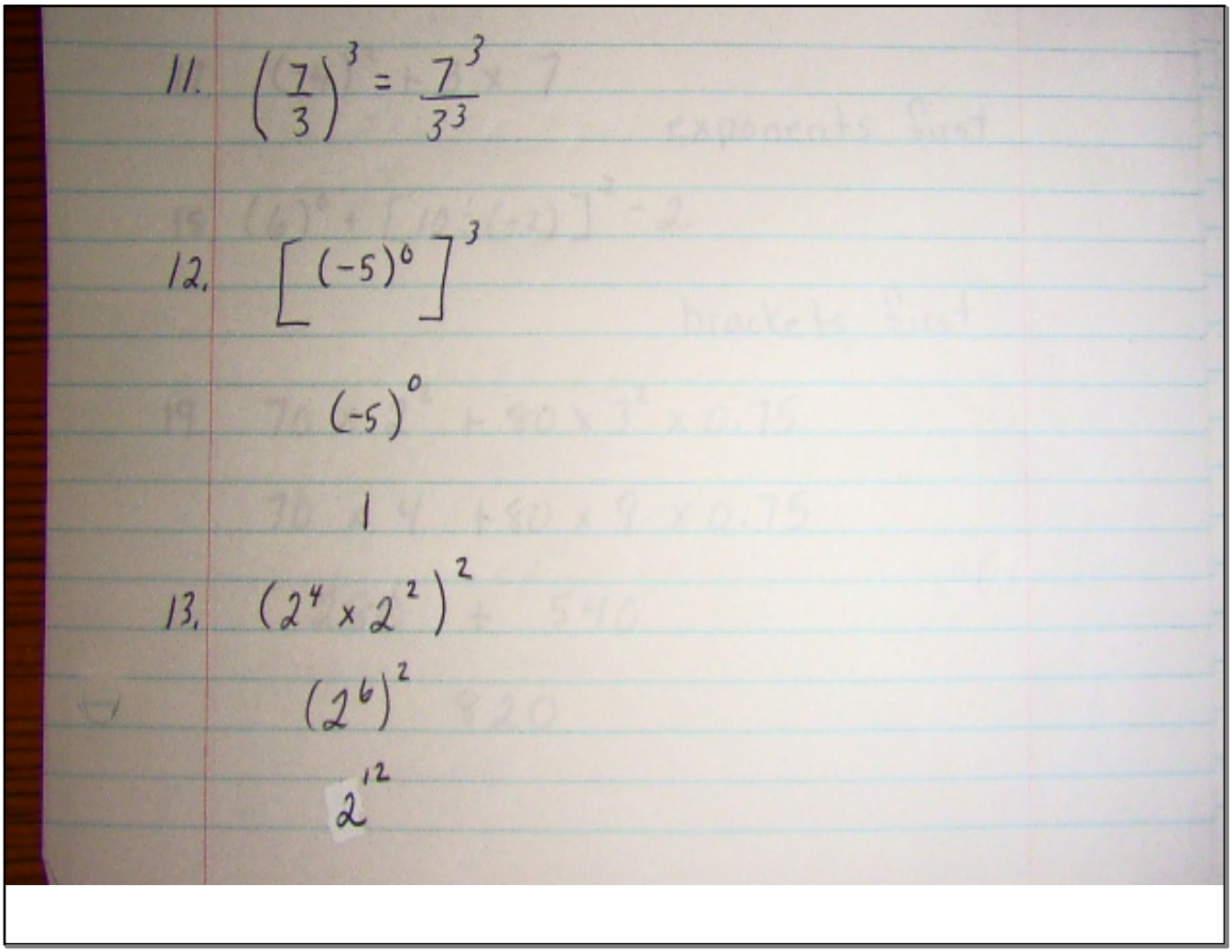
35. A rectangle has a side lengths of 10^6 and 10^8.

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


Powers. Review
1. $-(-5)^3$
Base = -5
2. $6^5 = 7776$
3. $(-6)^6$ +
$-(+6)^6$ -
$-(-6)^6$ -
Evaluate: $-(-5)^3$
$-(-125)$
$+125$


4. $(-13)^0 = 1$
5. $(3\times10^4)+(5\times10^3)+(7\times10^2)+(4\times10^1)+(6\times10^0)$
35746
6. i) $(5\times10^3)+(6\times10^2)+(4\times10^1)+(7\times10^0)=5647$
ii) 5645
iii) $(5\times10^3)+(7\times10^2)+(8\times10^0)=5708$
iv) 5780


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. $\left[(-5)^0\right]^3$
$(-5)^0$
1
13. $(2^4 \times 2^2)^2$
$(2^6)^2$
2^{12}

14. $(-5)^6$ Base = -5, exponent 6 Evaluate: $(-5)^6$ $+15625$

15. $-(-4)\times(-4)\times(-4)\times(-4)\times(-4)$

$-(-4)^5$

$-(-1024)$

1024

16. 4865

$(4\times10^3)+(8\times10^2)+(6\times10^1)+(5\times10^0)$

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

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

exponents first

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

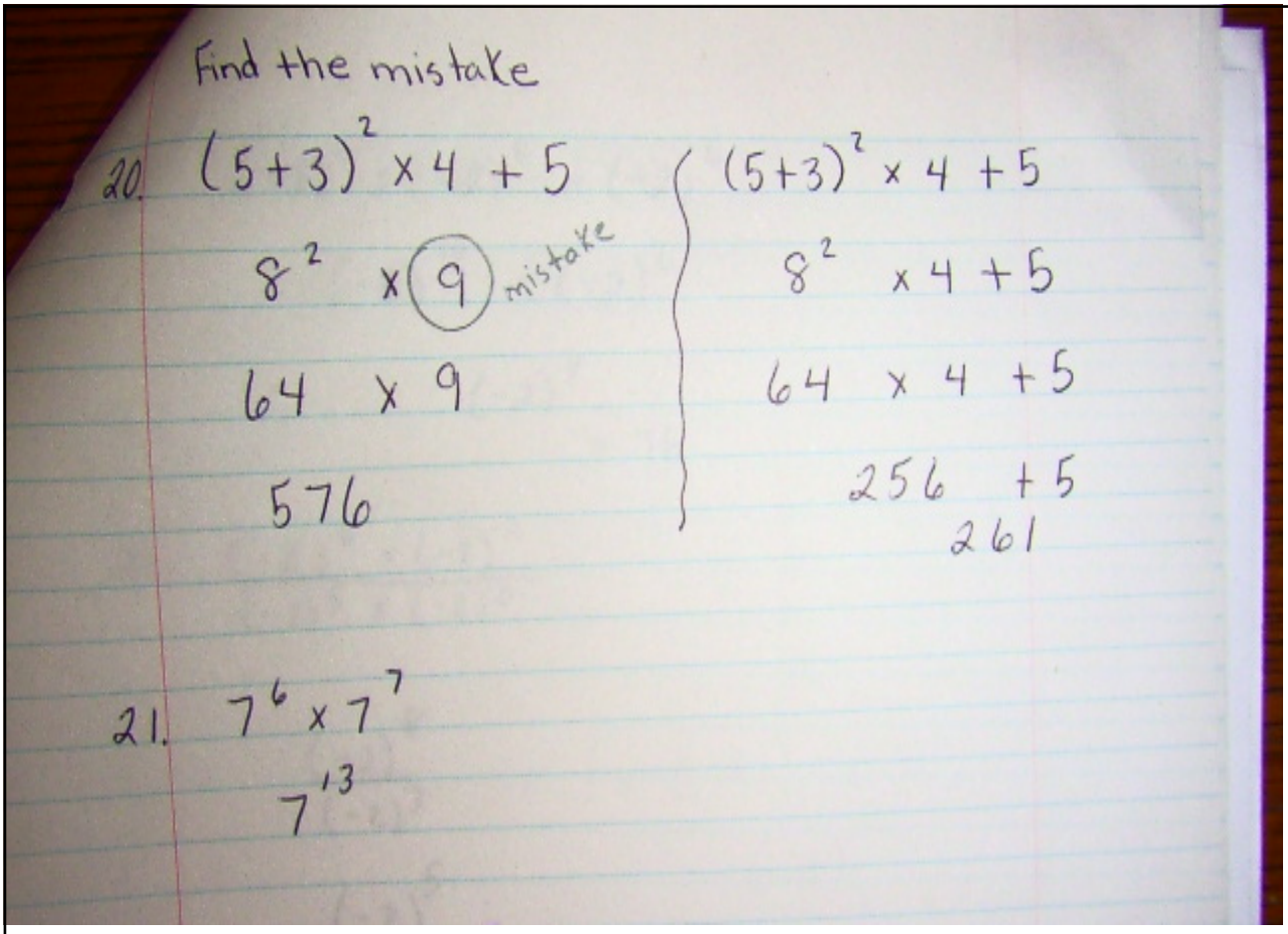
brackets first

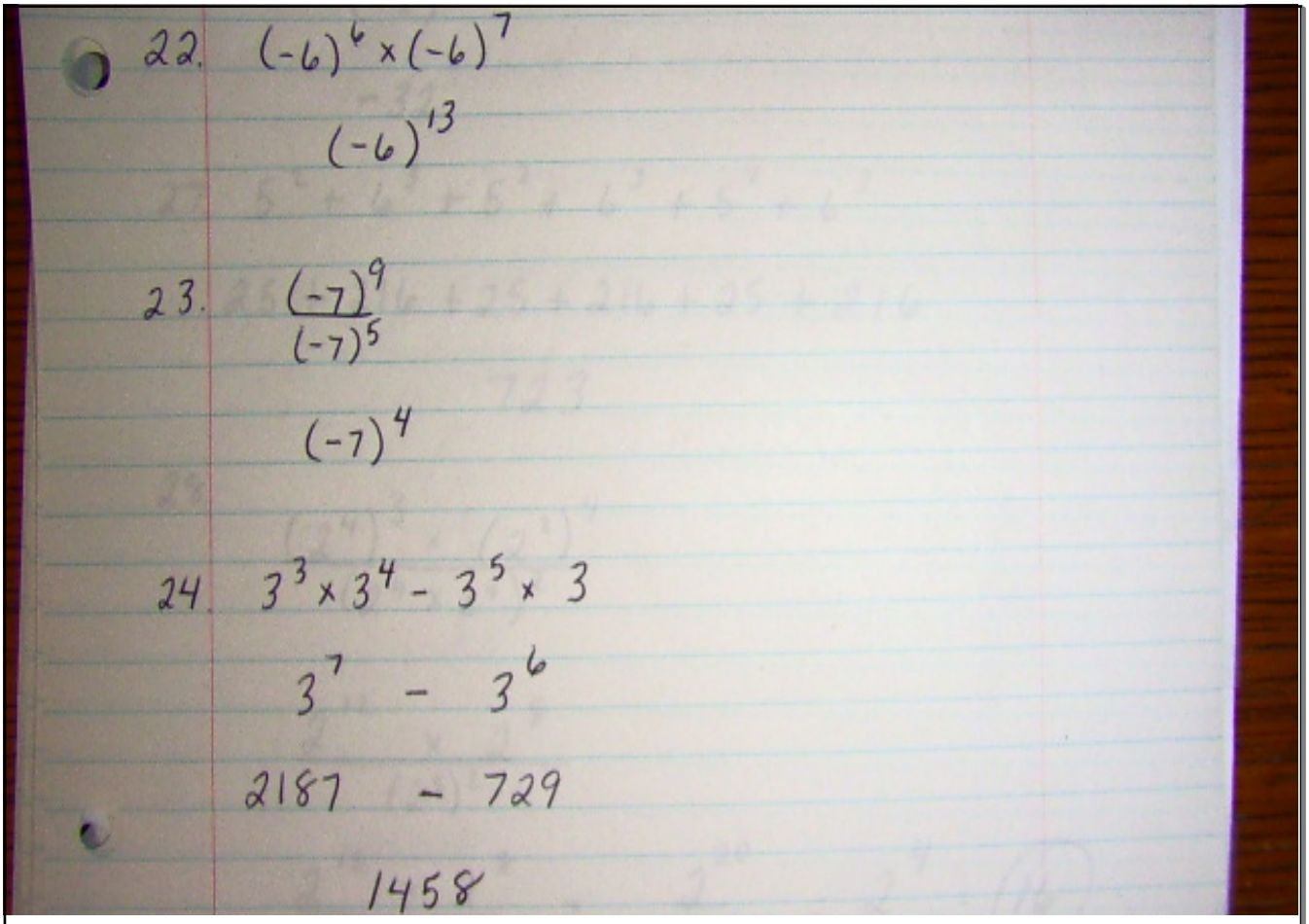
19. $70 \times 2^2 + 80 \times 3^2 \times 0.75$

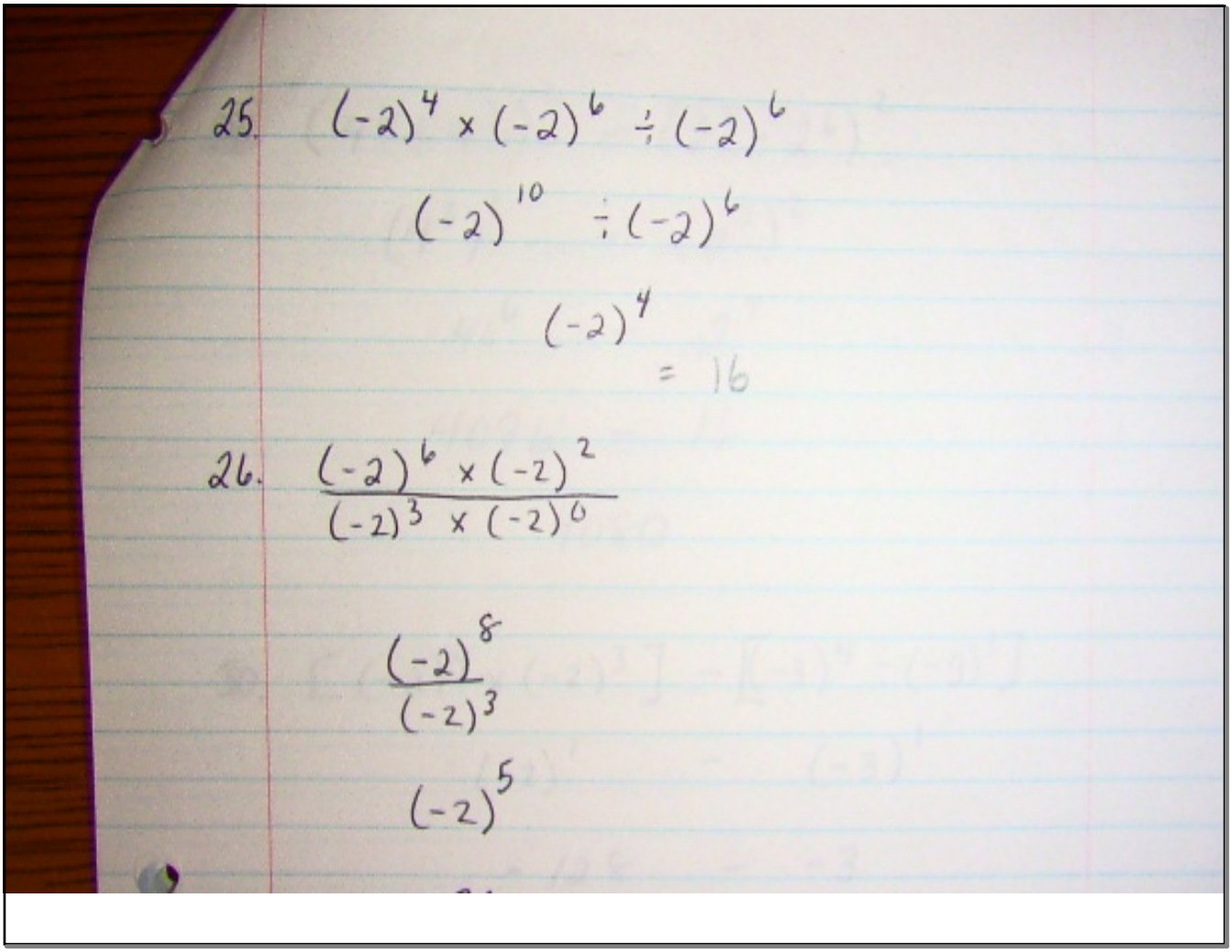
$70 \times 4 + 80 \times 9 \times 0.75$

$280 + 540$

820


Find the mistake
20. $(5+3)^2 \times 4 + 5$
$8^2 \times 9$ mistake
64×9
576
$(5+3)^2 \times 4 + 5$
$8^2 \times 4 + 5$
$64 \times 4 + 5$
$256 + 5$
261
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


25. $(-2)^4 \times (-2)^6 \div (-2)^6$
$(-2)^{10} \div (-2)^6$
$(-2)^4$
$= 16$
26. $\frac{(-2)^6 \times (-2)^2}{(-2)^3 \times (-2)^0}$
$\frac{(-2)^8}{(-2)^3}$
$(-2)^5$

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

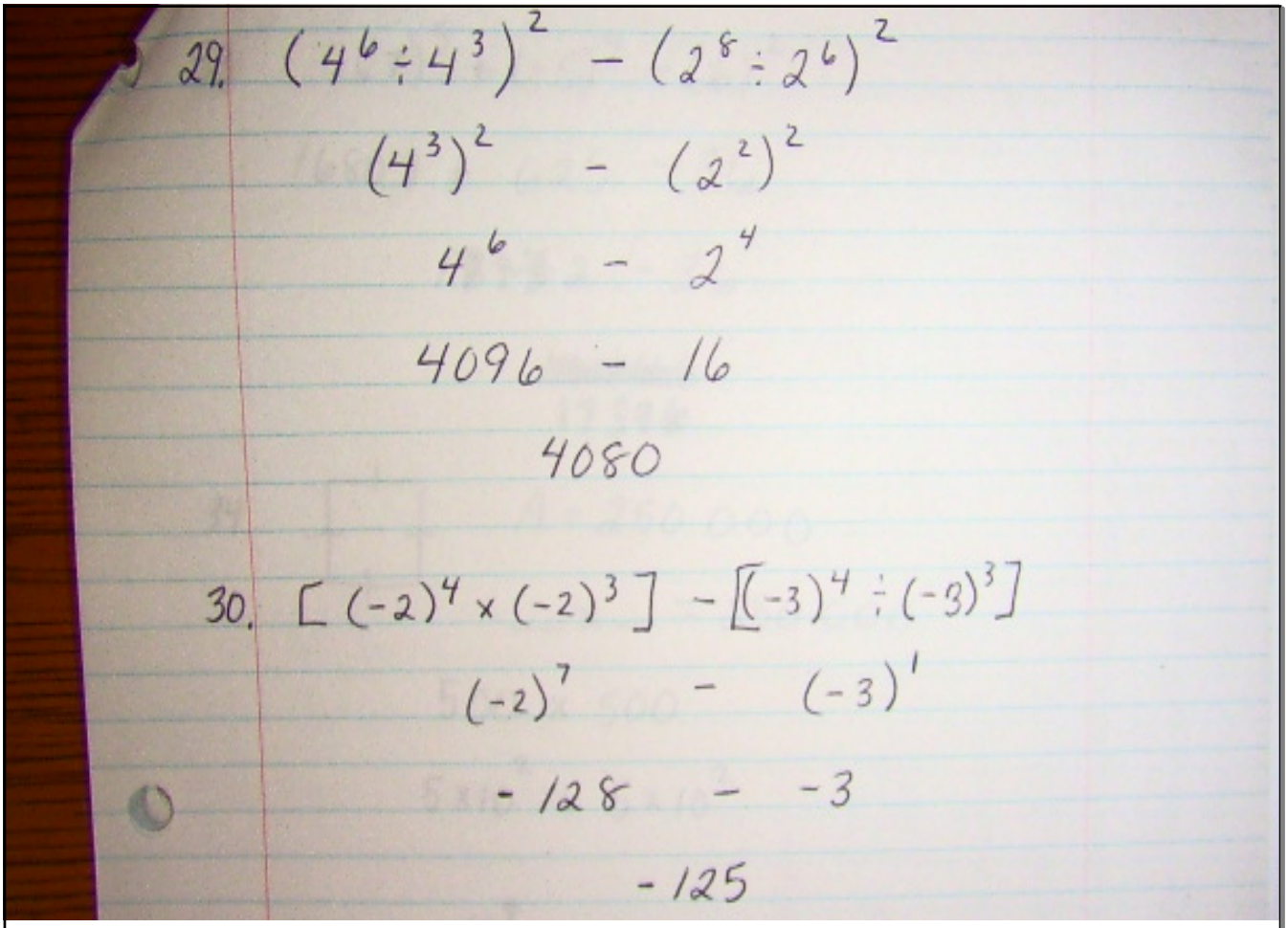
$25 + 216 + 25 + 216 + 25 + 216$

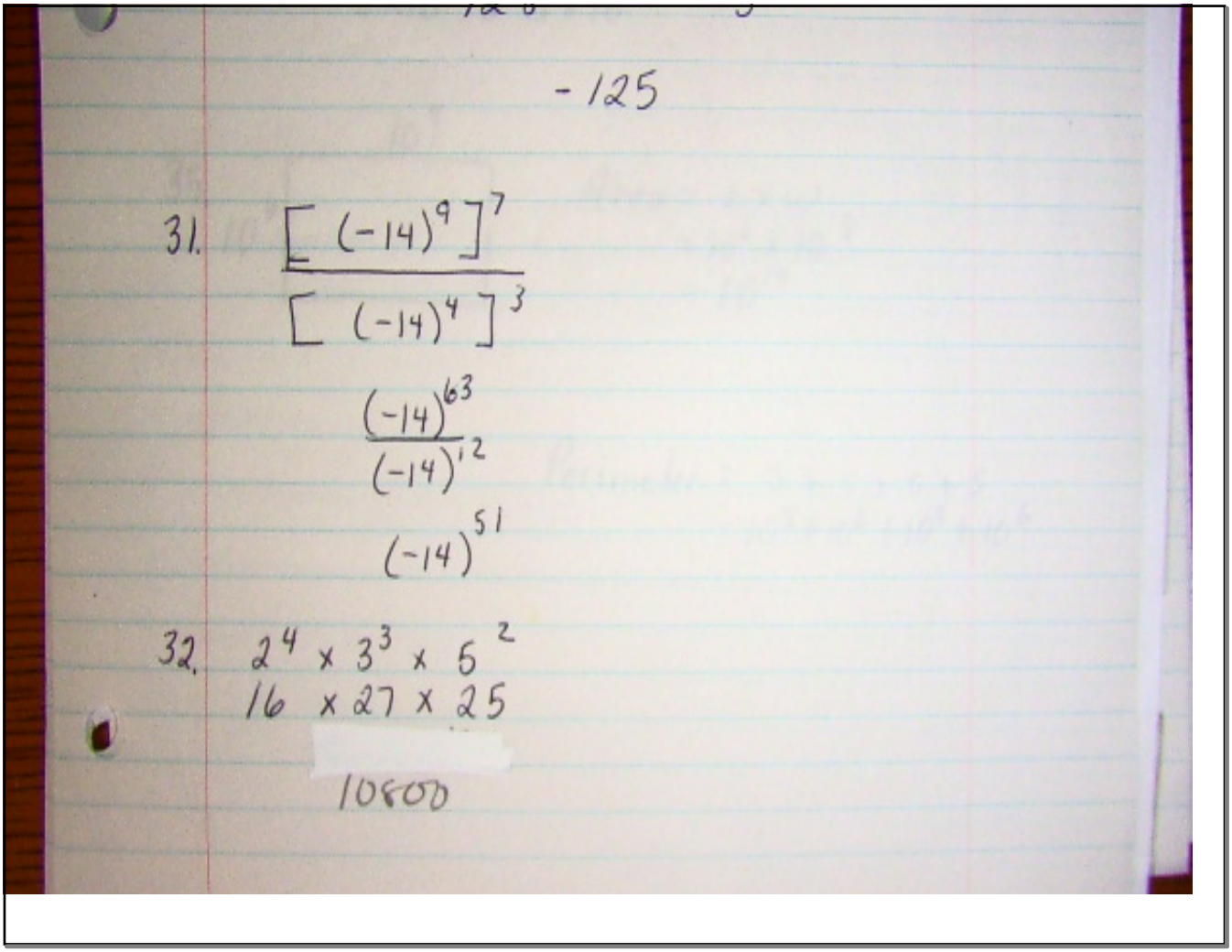
723

28. $\dfrac{(2^4)^3 \times (2^2)^4}{(2^4 \times 2^4)^2}$

$\dfrac{2^{12} \times 2^8}{(2^8)^2}$

$\dfrac{2^{12} \times 2^8}{2^{16}} = \dfrac{2^{20}}{2^{16}} = 2^4 = 16$


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
30. $[(-2)^4 \times (-2)^3] - [(-3)^4 \div (-3)^3]$
$(-2)^7 - (-3)^1$
$-128 - -3$
-125

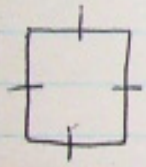

-125
31. $\frac{[(-14)^9]^7}{[(-14)^4]^3}$
$\frac{(-14)^{63}}{(-14)^{12}}$
$(-14)^{51}$
32. $2^4 \times 3^3 \times 5^2$
$16 \times 27 \times 25$
10800

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

$16807 + 625 - 36$

$17432 - 36$

17396

34. 

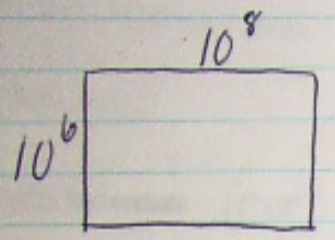
$A = 250\,000$

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

500×500

$(5 \times 10^2)(5 \times 10^2)$

35.



Area = L x w
$= 10^6 \times 10^8$
$= 10^{14}$

Perimeter = s + s + s + s
$= 10^8 + 10^6 + 10^8 + 10^6$