

What Did Professor Utterbunk Say When Asked: Have You Ever Heard of the Planet Saturn?

Simplify each expression. Write the letter of the answer in the box containing the exercise number.

- 1 5^3
- 2 5^{-3}
- 3 3^{-5}
- 4 $(-5)^{-3}$
- 5 $(-12)^{-2}$
- 6 -12^{-2}
- 7 $(-12)^0$
- 8 $(-4)^{-3}$

- Answers 1-8:
- T $\frac{1}{144}$ M $\frac{1}{125}$
 P -1 R $-\frac{1}{64}$
 I 125 L 144
 U 1 N $\frac{1}{243}$
 O $-\frac{1}{125}$ F -125
 E $\frac{1}{64}$ S $-\frac{1}{144}$

- 17 $7ab^0$
- 18 $7ab^{-4}$
- 19 $\frac{7}{ab^{-4}}$
- 20 $\frac{7^{-2}a}{b^{-1}}$
- 21 $2x^3y^{-8}$
- 22 $\frac{2x^{-3}}{y^{-8}}$
- 23 $\frac{2^{-1}x^{-3}}{y^8}$

- Answers 17-23:
- I $\frac{2y^8}{x^3}$ A $\frac{7a}{b^4}$
 R $2x^3y^8$ O $7ab^4$
 F $\frac{7b^4}{a}$ L $\frac{1}{2x^3y^8}$
 S $7a$ A $\frac{ab}{49}$
 M $\frac{2x^3}{y^8}$ N $\frac{b}{49a}$

- 9 -4^{-3}
- 10 10^{-5}
- 11 $(-10)^{-5}$
- 12 10^0
- 13 75^{-1}
- 14 -75^{-1}
- 15 $(-2)^{-4}$
- 16 -2^{-4}

- Answers 9-16:
- O 16 I $\frac{1}{75}$
 T $-\frac{1}{75}$ E $-\frac{1}{64}$
 A $-\frac{1}{16}$ N $\frac{1}{1000}$
 T 1 R -75
 S -64 H $\frac{1}{16}$
 B $\frac{1}{100,000}$
 U $-\frac{1}{100,000}$

- 24 $\frac{3n^2}{t^{-5}}$
- 25 $3^4n^{-2}t^5$
- 26 $\frac{3^{-4}t^{-5}}{n^{-2}}$
- 27 $\frac{8^2c^{-1}d^{-6}}{5}$
- 28 $\frac{(-8)^2c^0}{5^{-1}d^{-6}}$
- 29 $\frac{(-8)^{-2}d^{-6}}{5c^{-1}}$
- 30 $\frac{-8^{-2}}{5^{-1}cd^0}$

- Answers 24-30:
- T $\frac{64c}{5d^6}$ G $-\frac{5}{64c}$
 I $3n^2t^5$ I $320d^6$
 R $\frac{n^2}{81t^5}$ A $\frac{81t^5}{n^2}$
 E $320cd^6$ S $81n^2t^5$
 R $\frac{64}{5cd^6}$ N $\frac{c}{320d^6}$

NAME _____

1	2	3	4	5	6	7	8	9	10	11	12	13	14		
15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

