

# How Would You Describe a Window in the Kitchen Eating Area?

Simplify the expression, then cross out the letter pair next to the correct answer. For each letter pair that you DON'T cross out, write the upper case letter in the box containing the lower case letter.

1  $\frac{7a^8}{21a^3}$

2  $\frac{6a^2}{15a^9}$

7  $\frac{xy^{-4}}{x^3y^{-1}}$

8  $\frac{3^2x^7y^2}{3^5x^3y^{-5}}$

3  $\frac{-2a^3}{16a^{10}}$

4  $\frac{18a^{-2}}{9a^7}$

9  $\frac{-24x^2y}{-8x^9y^4}$

10  $\frac{60x^{-1}y^6}{-5x^6y^3}$

5  $\frac{8a^{-3}}{12a^{-4}}$

6  $\left(\frac{5}{a^3}\right)^3$

11  $\left(\frac{2x}{5y^4}\right)^2$

12  $\left(\frac{2x}{5y^4}\right)^{-2}$

**d**  
**A**  $125a^6$

**h**  
**W**  $-\frac{1}{8a^7}$

**r**  
**C**  $\frac{a^5}{3}$

**h**  
**I**  $\frac{25x}{4y^4}$

**a**  
**T**  $\frac{3}{x^7y^3}$

**i**  
**P**  $-\frac{12y^3}{x^7}$

**m**  
**J**  $\frac{2}{5a^7}$

**p**  
**O**  $\frac{2a^2}{5}$

**a**  
**V**  $\frac{125}{a^9}$

**c**  
**S**  $\frac{4x^2}{25y^8}$

**o**  
**F**  $\frac{1}{x^2y^3}$

**m**  
**E**  $-\frac{12}{x^3y^3}$

**l**  
**Y**  $\frac{2a}{3}$

**b**  
**S**  $\frac{2}{a^9}$

**f**  
**E**  $-\frac{1}{8a^9}$

**r**  
**K**  $\frac{x^4}{9y^3}$

**k**  
**U**  $\frac{25y^8}{4x^2}$

**g**  
**N**  $\frac{x^4y^7}{27}$

13  $\left(\frac{3m^2t^5}{2m^3t^{-1}}\right)^2$

14  $\left(\frac{3m^2t^5}{2m^3t^{-1}}\right)^{-2}$

19  $\frac{9 \times 10^5}{3 \times 10^9}$

20  $\frac{6.5 \times 10^4}{1.3 \times 10^{-7}}$

15  $\left(\frac{4m^4t^{-9}}{mt^{-2}}\right)^{-3}$

16  $\frac{m^{-5}t^{-2}}{(3m^2t)^3}$

21  $\frac{4.5 \times 10^{-8}}{2.5 \times 10^{-3}}$

22  $\frac{3.2 \times 10^{-6}}{6.4 \times 10^2}$

17  $\frac{-36m^2t^{-3}}{9m^{-2}t^{-7}}$

18  $\left(\frac{m^{-5}t^8}{2mt^3}\right)^{-4}$

23  $\frac{72,000,000}{0.00024}$

24  $\frac{0.000000441}{0.0098}$

**c**  
**D**  $-4m^4t^4$

**i**  
**N**  $-4m^8t^2$

**o**  
**T**  $\frac{t^{21}}{64m^9}$

**q**  
**R**  $5 \times 10^{11}$

**e**  
**S**  $3 \times 10^{-4}$

**o**  
**N**  $4.5 \times 10^{-2}$

**a**  
**A**  $\frac{t^{18}}{64m^6}$

**k**  
**G**  $\frac{16m^{24}}{t^{20}}$

**q**  
**L**  $\frac{4m^2}{9t^{12}}$

**b**  
**L**  $1.8 \times 10^{-5}$

**g**  
**W**  $3 \times 10^{11}$

**k**  
**T**  $1.8 \times 10^{11}$

**e**  
**R**  $\frac{9t^{12}}{4m^2}$

**j**  
**E**  $\frac{1}{27m^{11}t^5}$

**l**  
**H**  $\frac{16m^{21}}{t^{10}}$

**c**  
**P**  $3 \times 10^8$

**j**  
**D**  $5 \times 10^{-9}$

**n**  
**M**  $4.5 \times 10^{-5}$

25 The Quadrangle College Library estimates that the average book on its shelves is  $3.2 \times 10^{-2}$  m thick. The library has a total of  $8 \times 10^3$  m of shelf space. How many books will fit in the library?

**q**  
**O**  $2.5 \times 10^6$

**b**  
**T**  $2.7 \times 10^5$

26 The speed of light in space is  $3 \times 10^8$  km/s. Sirius A, the brightest star in the heavens, is  $8.1 \times 10^{13}$  km from the earth. How many seconds does it take for light to travel from Sirius A to the earth?

**n**  
**R**  $2.5 \times 10^5$

**e**  
**N**  $2.7 \times 10^4$

EXTRA: Convert your answer to days.

a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r
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