

# 9.4 Puzzle Time

## What Happened When The Tree Saw The Ghost?

Circle the letter of each correct answer in the boxes below. The circled letters will spell out the answer to the riddle.

Evaluate the expression.

1.  $7^{-5} \cdot 7^3$

2.  $5^2 \cdot 5^{-6}$

3.  $\frac{2^7}{2^{10}}$

4.  $\frac{6^0}{6^3}$

5.  $\frac{(-8)^3}{(-8)^5}$

6.  $\frac{(2.2)^7}{(2.2)^9}$

7.  $\frac{4^5}{4^4} \cdot \frac{4^8}{4^{13}}$

8.  $\frac{(-9)^3}{(-9)^7 \cdot (-9)^{-2}}$

Simplify the expression using only positive exponents.

9.  $3^{-2}a^4$

10.  $12^{-1}t^{-3}$

11.  $\frac{b^4}{5^{-2}b^8}$

12.  $\frac{14r^8}{2r^{15}}$

13.  $\frac{x^5 \cdot y^6}{2^{-2} \cdot x^0 \cdot y^9}$

14.  $\frac{6 \cdot f^{-4} \cdot g^2}{2 \cdot f^{-4} \cdot g^{-1}}$

| H                | A                  | I                 | S              | T              | R                | M              | E      | W                | L       | A                  | N              | S               | U                  | V                | D                | Y               |
|------------------|--------------------|-------------------|----------------|----------------|------------------|----------------|--------|------------------|---------|--------------------|----------------|-----------------|--------------------|------------------|------------------|-----------------|
| 8                | $\frac{4x^4}{y^2}$ | $\frac{1}{12t^3}$ | $\frac{1}{16}$ | $\frac{1}{49}$ | $\frac{1}{9a^4}$ | $\frac{1}{36}$ | $7r^7$ | $\frac{1}{4.84}$ | $3fg^3$ | $\frac{1}{216}$    | 81             | $\frac{1}{625}$ | $\frac{x^5}{4y^3}$ | $\frac{25}{b^2}$ | 49               | $-\frac{1}{64}$ |
| I                | P                  | T                 | E              | G              | T                | R              | O      | I                | S       | F                  | Q              | I               | K                  | E                | B                | D               |
| $\frac{12}{t^3}$ | $3g^3$             | $\frac{1}{125}$   | $\frac{1}{8}$  | 4.84           | $\frac{25}{b^4}$ | $\frac{1}{81}$ | -8     | $\frac{a^4}{9}$  | 64      | $\frac{4x^5}{y^3}$ | $\frac{3}{fg}$ | $\frac{1}{64}$  | -16                | $\frac{1}{256}$  | $\frac{t^3}{12}$ | $\frac{7}{r^7}$ |