## Activity 29
Use the clues and the chart to determine the value of each letter, solve the cryptogram, and discover the classic joke.

$g \times s = (s + l + 5) \times s$

$s \times g = g$

|    | s | g | p | l |
|----|---|---|---|---|
| 1  |   |   |   |   |
| 3  |   |   |   |   |
| 4  |   |   |   |   |
| 9  |   |   |   |   |

s = ____
g = ____
p = ____
l = ____

$e \times 10 > 100$

$r \times e > 60$

$r \times u < 13$

|    | c | u | e | r |
|----|---|---|---|---|
| 2  |   |   |   |   |
| 5  |   |   |   |   |
| 6  |   |   |   |   |
| 11 |   |   |   |   |

c = ____
u = ____
e = ____
r = ____

$i \div k = 1.5$

$o \times 100 = a \times 70$

|    | k | i | o | a |
|----|---|---|---|---|
| 7  |   |   |   |   |
| 8  |   |   |   |   |
| 10 |   |   |   |   |
| 12 |   |   |   |   |

k = ____
i = ____
o = ____
a = ____

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**Cryptogram** (Parentheses separate double digits; they have no other meaning.)

Wh(10)t   d7   y72   9(11)t   wh(11)n   y72   56711   47(12)17n
7(10)8   w(12)th   (10)   f726   3(11)(10)f   537v(11)6?   (10)
6(10)1h   7f   977d   3258!

Wh _ t    d _    y _ _    _ _ t    wh _ n    y _ _

_ _ _ _ _    _ _ _ _ _ _ n    _ _ _    w _ th    _

f _ _ _    _ _ _ f    _ _ _ v _ _?    _    _ _ _ h    _ f

_ _ _ d    _ _ _ _ _!

# Answers

: What do you get when you cross poison oak with a four leaf clover?  A rash of good luck!

|   | s | g | p | l |
|---|---|---|---|---|
| 1 | + | — | — | — |
| 3 | — | — | — | + |
| 4 | — | — | + | — |
| 9 | — | + | — | — |

Answers:  s = 1; g = 9; p = 4; l = 3
If *s* times *g* equals *g*, *s* must be 1 for the equation to be true.  If *g* times *s* equals *s* plus *l* plus 5, times *s*, *g* must be 9 and *l* must be 3, for the equation to be true.  *p* is then 4.

|    | c | u | e | r |
|----|---|---|---|---|
| 2  | — | + | — | — |
| 5  | + | — | — | — |
| 6  | — | — | — | + |
| 11 | — | — | + | — |

Answers:  c = 5; u = 2; e = 11; r = 6
If *e* times 10 is greater than 100, *e* must be 11 for the statement to be true.  If *r* times *e* is greater than 60, *r* must be 6 for the statement to be true.  If *r* times *u* is less than 13, *u* must be 2, for the statement to be true.  *c* is then 5.

|    | k | i | o | a |
|----|---|---|---|---|
| 7  | — | — | + | — |
| 8  | + | — | — | — |
| 10 | — | — | — | + |
| 12 | — | + | — | — |

Answers:  k = 8; i = 12; o = 7; a = 10
If *i* divided by *k* equals 1.5, *i* must be 12 and *k* must be 8 for the equation to be true with the given numbers.  If *o* times 100 equals *a* times 70, *o* must be 7 and *a* must be 10 for the equation to be true.