

A Turvy is an odd-looking drawing that has one explanation when viewed right-side-up, and another when viewed upside-down. The Turvy above was created by Roy Goodman of Fox Point, Wisconsin and published in Games Magazine in May 1986.

To find the two titles to the Turvy above, first solve the algebra problems on the next page. Then find the letter of the corresponding answer in the second column. Then in the spaces below, write the letter which corresponds to each problem number.

RIGHT-SIDE-UP TITLE:

-     -         -             -                 - 

$\begin{array}{llllllllll}12 & 13 & 1 & 16 & 15 & 13 & 2 & 13 & 14 & 3\end{array} 13$

UPSIDE-DOWN TITLE:

| 14 | 5 | 16 | 1 | 10 | 12 | 4 | 15 | 6 | 16 | 9 | 8 | 13 | 11 | 7 | 10 | 10 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | 121615

1. Name the axiom: $-18+18=0$
2. The number of subsets of $\{a, c, d, v, r, w\}$
3. Determine the value of $f(-3)$ if $f(x)=x^{2}-2 x+5$
4. Determine the slope of a line passing through $(-2,3)$ and $(4-9)$
5. Simplify $-4[5-(-6-5+2)]$
6. Two trains started from the same place at the same time and traveled in opposite directions at rates which differed by 20 m.p.h. In 5 hours, they were 500 miles apart. Determine the rate of the faster train in miles per hour.
7. Write the equation of the line which has $y$-intercept -2 and is perpendicular to the line $x+2 y=7$.
8. Solve $\frac{7 w}{3}+8=22$ for $w$.
9. Solve $4(7-3 x)+2 x=-2-5(2 x-6)$ for $x$.
10. What polynomial must be added to $4 y^{5}+3 x^{2}-2 y$
to obtain $y^{5}-1$ ?
11. Simplify $(-5)(-2)(1)(2)(-3)$
12. Solve the following system of equations

$$
\begin{gathered}
x+5 y=19 \\
3 x-2 y=-11
\end{gathered}
$$

to determine the value of $x$.
13. Winchester Florists sells long-stemmed roses at 1 for $\$ 2.00$ or 4 for $\$ 6.00$. On Miss Pea's birthday, there were 46 roses sold and $\$ 76.00$ collected. How many single longstemmed roses were sold?
_14. Determine the value of $\left|\begin{array}{cc}3 & 2 \\ 6 k & 4 k\end{array}\right|+\left|\begin{array}{cc}-3 & -5 \\ 2 & -1\end{array}\right|$
$\qquad$ 15. In which quadrant does the point $(4,-1)$ lie?
___ 16. Solve the following system to determine the value of $y$ :

$$
\begin{array}{r}
x-3 y+2 z=2 \\
2 y-z=1 \\
2 x+y+4 z=4
\end{array}
$$

