In the radicals below, a missing value is indicated by a ?. Find what the missing number would have to be to make the statement true. If the root is a square root, indicate that the index is 2.

|  |  |
| --- | --- |
| 1. $\sqrt[?]{24x^{5}y^{9}}=2xy^{3} \sqrt[?]{3x^{2}}$

? =\_\_\_\_\_\_\_\_\_\_ | 1. $\sqrt{50x^{?}y^{7}}=5x^{3}y^{3}\sqrt{2x^{2}y}$

? = \_\_\_\_\_\_\_\_\_\_\_\_ |
| 1. $\sqrt{?x^{8}y^{5}}=6x^{4}y^{2}\sqrt{2y}$

$?$ = \_\_\_\_\_\_\_\_\_ | 1. $\left(\sqrt[3]{4x^{2}y}\right)^{?}= \sqrt[3]{4x^{2}y} $

? = \_\_\_\_\_\_\_\_\_\_\_\_ |

Indicate whether there is or is not a real number solution in the each of the following cases if *a* < 0 and *b* > 0. Circle Y for Yes and N for No and C for Can’t Tell.

1. Y N C $\sqrt{a}$
2. Y N C $\sqrt[3]{a}$
3. Y N C $\sqrt[5]{b}$
4. Y N C $\sqrt[4]{b}$
5. Y N C $\sqrt[7]{a∙b}$
6. Y N C $\sqrt[4]{a/b}$
7. Y N C $\sqrt{a-b}$
8. Y N C $\sqrt{a+b}$
9. Write the rule for the tables below and fill in the missing values.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Input** | **Output** |  | **Input** | **Output** |
|  | -12 |  | -4 | -7 |
| 0 |  |  | 0 | 1 |
| 1 |  |  | 3 | 7 |
| 5 |  |  | 9 | 19 |
|  |  |  |  |  |
|  |  |  |  | 15 |