

Name: \_\_\_\_\_

Dr. Von Scalenstein has a hamster, Snowy, that weighs  $\frac{7}{10}$  of a kilogram (kg). He has invented 6 different sizing potions that can change Snowy's size. The chart lists expressions that show the effect of each of the potions.

potion A	potion B	potion C	potion D	potion E	potion F
$\frac{7}{10} \text{ kg} \times \frac{2}{5}$	$\frac{7}{10} \text{ kg} \times 3$	$\frac{7}{10} \text{ kg} \times \frac{1}{3}$	$\frac{7}{10} \text{ kg} \times 8$	$\frac{7}{10} \text{ kg} \times 5$	$\frac{7}{10} \text{ kg} \times \frac{4}{9}$

Which of the potions will cause Snowy to shrink? Place a  $\checkmark$  next to all that apply.

\_\_\_ potion A

\_\_\_ potion B

\_\_\_ potion C

\_\_\_ potion D

\_\_\_ potion E

\_\_\_ potion F

Find the fraction of each number.

$\frac{1}{5}$  of 45 = \_\_\_\_

$\frac{1}{9}$  of 27 = \_\_\_\_

$\frac{1}{4}$  of 12 = \_\_\_\_

$\frac{2}{5}$  of 45 = \_\_\_\_

$\frac{5}{9}$  of 27 = \_\_\_\_

$\frac{3}{4}$  of 12 = \_\_\_\_

Fill in the blanks.

$4^1$  base: \_\_\_\_ exponent: \_\_\_\_

$7^3$  base: \_\_\_\_ exponent: \_\_\_\_

$9^5$  base: \_\_\_\_ exponent: \_\_\_\_

$3^2$  base: \_\_\_\_ exponent: \_\_\_\_

$5^4$  = \_\_\_\_ to the \_\_\_\_ power

$8^1$  = \_\_\_\_ to the \_\_\_\_ power

Find the products for at least three of the problems in the first row and two problems in the second row.

$$\begin{array}{r} 431 \\ \times 5 \\ \hline \end{array} \quad \begin{array}{r} 592 \\ \times 7 \\ \hline \end{array} \quad \begin{array}{r} 692 \\ \times 4 \\ \hline \end{array} \quad \begin{array}{r} 398 \\ \times 3 \\ \hline \end{array} \quad \begin{array}{r} 3,327 \\ \times 2 \\ \hline \end{array} \quad \begin{array}{r} 3,651 \\ \times 9 \\ \hline \end{array} \quad \begin{array}{r} 9,308 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 63 \\ \times 72 \\ \hline \end{array} \quad \begin{array}{r} 45 \\ \times 58 \\ \hline \end{array} \quad \begin{array}{r} 62 \\ \times 55 \\ \hline \end{array} \quad \begin{array}{r} 40 \\ \times 93 \\ \hline \end{array} \quad \begin{array}{r} 49 \\ \times 82 \\ \hline \end{array}$$

In the boxed expression shown to the right, the  $f$  represents an unknown number. The product of  $\frac{3}{8}$  and  $f$  is less than both of the factors.

$$\frac{3}{8} \times f$$

- What could  $f$  represent?
- What could  $f$  NOT represent?

Identify three numbers that  $f$  could represent and three numbers that  $f$  could NOT represent.

$f$ could represent...			$f$ could NOT represent...		