Name: _____ Thursday Night

Dr. Von Scalenstein has a guinea pig, Furball, that weighs $\frac{3}{4}$ of a kilogram (kg). He has created 6 different sizing potions that can change Furball'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
$\frac{3}{4}$ kg x 7	$\frac{3}{4}$ kg x $\frac{5}{6}$	$\frac{3}{4}$ kg x 2	$\frac{3}{4}$ kg x 4	$\frac{3}{4}$ kg x $\frac{1}{2}$	$\frac{3}{4}$ kg x $\frac{2}{5}$

Which of the potions will cause Furball to shrink? Place a ✓ next to all that apply.

___ potion A ___ potion B ___ potion C

___ potion D ___ potion E ___ potion F

Find the fraction of each number.

$\frac{1}{10}$ of 50 = ____ $\frac{1}{3}$ of 60 = ____ $\frac{1}{4}$ of 400 = ____

$\frac{7}{10}$ of 50 = ____ $\frac{2}{3}$ of 60 = ____ $\frac{3}{4}$ of 400 = ____

Identify the base and exponent of each number.

6^4 base: _____ exponent: ____ 2^3 base: _____ exponent: ____

8^0 base: _____ exponent: ____ 5^4 base: _____ exponent: ____

3^5 = _____ to the _____ power 1^2 = _____ to the _____ power

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

$$\begin{array}{r} 8{,}772 \\ \times\ 9 \\ \hline \end{array} \qquad \begin{array}{r} 7{,}395 \\ \times\ 8 \\ \hline \end{array} \qquad \begin{array}{r} 3{,}379 \\ \times\ 7 \\ \hline \end{array} \qquad \begin{array}{r} 532 \\ \times\ 3 \\ \hline \end{array} \qquad \begin{array}{r} 488 \\ \times\ 2 \\ \hline \end{array} \qquad \begin{array}{r} 432 \\ \times\ 7 \\ \hline \end{array} \qquad \begin{array}{r} 141 \\ \times\ 5 \\ \hline \end{array}$$

$$\begin{array}{r} 48 \\ \times\ 97 \\ \hline \end{array} \qquad \begin{array}{r} 23 \\ \times\ 31 \\ \hline \end{array} \qquad \begin{array}{r} 31 \\ \times\ 42 \\ \hline \end{array} \qquad \begin{array}{r} 84 \\ \times\ 93 \\ \hline \end{array} \qquad \begin{array}{r} 20 \\ \times\ 69 \\ \hline \end{array}$$

Each expression below has $\frac{3}{10}$ as one of its factors. Circle each expression whose product is greater than $\frac{3}{10}$.

$\frac{3}{10} \times 2$ $\qquad$ $\frac{8}{2} \times \frac{3}{10}$ $\qquad$ $\frac{4}{4} \times \frac{3}{10}$ $\qquad$ $\frac{3}{10} \times \frac{5}{6}$ $\qquad$ $\frac{7}{8} \times \frac{3}{10}$

Choose one of the expressions you circled. Explain how someone could tell that the product of expression is greater than $\frac{3}{10}$ without multiplying the factors.

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