02-16-26 MDE 10

Wednesday, February 11, 2026 3:52 PM

2.5 Dividing Fractions and Mixed Numbers
2.5 Exercise Set, page 158: 1, 5, 9, 18, 31,45

Exam 1 - Wednesday, 02/18/26, 1.2-1.7, 2.1-2.5

2.4

95. A Japanese company called Che-ez! manufactures a small digital camera, the SPYZ camera. The face of the camera measures $2\frac{9}{25}$ inches by $1\frac{13}{25}$ inches and is slightly bigger than a Zippo lighter. Find the area of the face of this camera. (Area = length · width)

$1\frac{13}{25}$ in.

$2\frac{9}{25}$ in.

$\text{Area} = \left(2\frac{9}{25}\text{ in}\right)\left(1\frac{13}{25}\text{ in}\right)$

$= \left(2\frac{9}{25}\right)\left(1\frac{13}{25}\right)\text{in}^2$

$= \left(\frac{(2)(25)+9}{25}\right)\left(\frac{(1)(25)+13}{25}\right)\text{in}^2$

$= \left(\frac{59}{25}\right)\left(\frac{38}{25}\right)\text{in}^2$

$\left(\frac{1}{25}\right)(?) = 1$

$\left(\frac{25}{25}\right)(2) = \frac{50}{25}$

$\begin{array}{r} 59 \\ \times 38 \\ \hline 472 \\ 177 \\ \hline 2242 \end{array}$

$\text{Area} = \frac{2242}{625}\ \text{in}^2$ exact

$\frac{3}{}$ $\frac{25^2}{}$

$$625\overline{)2242}\quad 3,\ 1875,\ 367$$

$$\frac{25}{625}$$

Area $= 3\frac{367}{625}\ in^2$

$\approx 3\frac{1}{2}\ in^2$

$\left(2\frac{9}{25}\ in\right)\left(1\frac{13}{25}\ in\right)$

$\approx (2\ in)(2\ in)$

$= 4\ in^2$

2.4

Multiply. Write each answer in simplest form. For those exercises marked, find both an exact product and an estimated product. See Examples 8 through 13.

48. $5\frac{5}{6}\cdot 7\frac{3}{5}$

Exact:

Estimate:

$= \left(\frac{35}{6}\right)\left(\frac{38}{5}\right)$

$= \frac{(5)(7)}{(2)(3)}\,\frac{(2)(19)}{5}$

$= \frac{(7)(19)}{3} = \frac{133}{3} = 44\frac{1}{3}$

$3\overline{)133}\quad 44\frac{1}{3}$

$$3\overline{)13} \quad 4\tfrac{1}{3}$$

12

13

12

1

$$(5\tfrac{5}{6})(7\tfrac{3}{5}) \approx (6)(8) = \boxed{48}$$

2.5: 45

Divide. Write each answer in simplest form

45. $3\frac{3}{7} \div 3\frac{1}{3}$

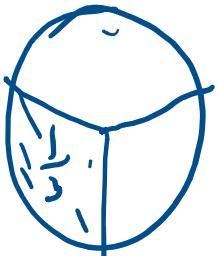
$\frac{\text{big number}}{\text{small number}} > 1$

$\frac{24}{7} \div \frac{10}{3}$

$= \left(\frac{\cancel{24}^{12}}{7}\right)\left(\frac{3}{\cancel{10}_{5}}\right) = \boxed{\frac{36}{35}} > 1$

$= 1\frac{1}{35} > 1$

$\frac{3}{7}$



$\frac{1}{3}$

$7\overline{)3.00}$ $.42\frac{6}{7}$

28

20

14

6

$3\overline{)1.00}$ $3\frac{1}{3}$

9

10

9

1

2.4: 27

Multiply. Write each answer in simplest form.

27. $\frac{3}{14} \cdot \frac{6}{25} \cdot \frac{5}{27} \cdot \frac{7}{6}$ $=$

2 5 9

$= \frac{1}{2 \cdot 5 \cdot 9} = \frac{1}{90}$

$\frac{3}{(2)(7)} \cdot \frac{(3)(2)}{(5)(5)} \cdot \frac{5}{(3)(9)} \cdot \frac{7}{(3)(2)}$

$= \frac{1}{(2)(5)(9)}$

Divisibility rules

If a number ends in zero, it is divisible by 10.
If a number ends in 0,2,4,6,8, the number is divisible by 2
If a number ends with 5, it is divisible by 5.