



RATIONAL NUMBER OPERATIONS

ANSWER KEY

EXTENDED LEARNING

1. The Houston Texans allow fans to purchase ticket packages for groups of ten that include game tickets and sideline passes. Your family decides to purchase a package for \$1,400. Your family will use $\frac{2}{5}$ of the tickets, and family friends will use the rest. How much money is owed to you by family friends?

$$\frac{3}{5} \cdot \$1400 = \$840$$

$$\frac{2}{5} \text{ family } \frac{3}{5} \text{ friends}$$

\$840 is owed.

2. Fans can purchase all of their favorite gear at the Houston Texans Team Shop at NRG Stadium. If each member of a family of four purchases a t-shirt for \$27.99, a key chain for \$5.99, and pays \$2.80 in sales tax, how much will the family pay?

$$4(\$27.99 + \$5.99 + \$2.80) = \$147.12$$

or

$$\begin{aligned} \$27.99 + \$5.99 + \$2.80 &= \$36.78 \text{ per person} \\ \$36.78 (4) &= \$147.12 \end{aligned}$$



The Stats Challenge curriculum was developed by educators at Region 4 in conjunction with the Houston Texans



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3. Houston Texans Cheerleaders Ashley, Gabrielle S, Phoebe, and Shakia are proud University of Houston Cougars. In 2020 the average yearly tuition and fees for public universities in Texas like the University of Houston is \$10,824 for in-state students. Consider if your parents have told you they plan to pay $\frac{5}{8}$ of your tuition and fees for four years of college plus the cost of your books.

- How much money would you need to save in order to pay the rest of your tuition and fees?
- If you save every month for 6 years, how much do you need to save per month?

cost of four years = \$43,296

$$\frac{3}{8} \text{ of } \$43,296 = \$16,236$$

$$\frac{\$16,236}{72} = \$225.50 \text{ per month}$$



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ENRICHMENT

Many fans purchase Texans gear and other products to wear on gameday from shop.houstontexans.com. If you won a \$100 online gift certificate to the Houston Texans Official Online Store, how would you spend the certificate? Remember, you will need to pay sales tax on your purchase. Multiply your pre-tax total by 0.0825 to calculate 8.25% sales tax.

Problem-Solving Board

SEE: What is the question asking me to do? What do I know? What do I need to know?	PLAN: Estimate: _____
DO: (Solve) Solve the problem. Answer: _____	REFLECT: My solution is reasonable because

Questions to Ask Myself

SEE: What do I know? What do I need to know? Have I seen a similar or related problem?	PLAN: Would making the numbers simpler or working backwards help? What would a diagram of the problem look like? How will I use each relevant value?
DO: (Solve) Am I following the order of operations that match the problem's context? Am I using correct computation? Do the labels of the values make sense with each step?	REFLECT: Have I checked my computations? Is my answer reasonable? Is there another way to solve the problem and does this other way give the same solution?



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