MATH 6 SOL PRACTICE PACKET #2
Computation/Estimation

DO NOT LOSE THIS PACKET!!!

You MUST do EVERY problem.
Reporting Category: Computation and Estimation

Number of Items: 9

Standards of Learning:

6.6 The student will

a) *(complete items without the use of a calculator)* multiply and divide fractions and mixed numbers; and

b) estimate solutions and then solve single-step and multistep practical problems involving addition, subtraction, multiplication and division of fractions.

6.7 The student will solve single-step and multistep practical problems involving addition, subtraction, multiplication, and division of decimals.

6.8 The student will *(complete items without the use of a calculator)* evaluate whole number numerical expressions, using the order of operations.
TIPS:

➢ To multiply (product), look for canceling (a top and a bottom number, never same level), then multiply straight across. (think: “bowtie”)
➢ To divide (quotient), change to multiplication using “KCF” (Keep-Change-Flip), then follow multiplication process.
➢ Mixed numbers must be turned into improper fractions BEFORE KCF or cancelling. (“MAD horseshoe – Multiply, then Add, keep same Denominator”)
➢ Express answers in simplest form.

PRACTICE:

(1) Which is equal to $\frac{3}{2} \times \frac{3}{4}$?
   (a) 2                          (b) 1\(\frac{1}{8}\)  
   (c) 1\(\frac{1}{2}\)             (d) 1\(\frac{1}{8}\)

(2) What fraction is equivalent to $\frac{5}{6} \div \frac{1}{3}$?
   (a) 1\(\frac{5}{18}\)  
   (b) 1\(\frac{2}{5}\)     
   (c) 1\(\frac{1}{6}\)     
   (d) 2\(\frac{1}{2}\)

(3) Do not use a calculator to solve this problem.

What is the product of $2\frac{2}{3}$ and $1\frac{1}{6}$?
   (a) 2\(\frac{1}{9}\)  
   (b) 2\(\frac{2}{7}\)  
   (c) 3\(\frac{1}{5}\)  
   (d) 3\(\frac{5}{6}\)

(4) Which is the quotient of $2\frac{5}{6}$ and 4?
   (a) 1\(\frac{1}{2}\)  
   (b) 1\(\frac{17}{24}\)  
   (c) 2\(\frac{5}{24}\)  
   (d) 6\(\frac{4}{5}\)
6.6b FRACTION WORD PROBLEMS

TIPS:

- When adding or subtracting, use estimation to help. If doing the computation, find a common denominator, then change the numerators. You may use a calculator to change fractions to decimals by dividing (top ÷ bottom).
- If all the units are the SAME, you will ADD or SUBTRACT.
- If the units are DIFFERENT, you will MULTIPLY or DIVIDE.
- When subtracting, the BIGGER number must go first.
- When dividing, the THING BEING SPLIT UP must go first.
- Express answers in simplest form.

PRACTICE:

1. Janine worked $5\frac{3}{2}$ hours on Thursday and $7\frac{3}{4}$ hours on Friday. How long did she work on all on those two days?

(a) 13                      (b) $13\frac{1}{4}$          (c) 14                      (d) $14\frac{1}{4}$

2. Derek learned that $\frac{2}{3}$ of his classmates have pets. Of those who have pets, $\frac{3}{8}$ have cats. What fraction of his classmates have cats?

(a) $\frac{1}{8}$          (b) $\frac{1}{4}$          (c) $\frac{1}{3}$          (d) $\frac{1}{2}$

3. Mr. Klein is cutting a 6-foot board of wood into $1\frac{1}{4}$-foot lengths to make shelves. How many $1\frac{1}{4}$-foot shelves can he make?

(a) 2                        (b) 3                      (c) 4                        (d) 5

4. Nigel has 3 rolls of ribbon. Each roll has $8\frac{3}{4}$ feet of ribbon. It takes $1\frac{3}{4}$ feet of ribbon to make one bow. What is the total number of bows that Nigel can make using these 3 rolls of ribbon?

(a) 5 bows                        (b) 15 bows                   (c) 31 bows                   (d) 46 bows

5. Jasmine’s recipe requires $\frac{2}{3}$ cup flour. She has only $\frac{1}{2}$ cup flour in the pantry. How much more flour does she need?

(a) $\frac{7}{6}$          (b) $\frac{3}{5}$          (c) $\frac{1}{3}$          (d) $\frac{1}{6}$
6.7 DECIMALS

TIPS:
- Use rounding & estimation to check the reasonableness of your answer.
- Always read the problem AGAIN when you think you are done. There is often another step.
- If all the units are the SAME, you will ADD or SUBTRACT.
- If the units are DIFFERENT, you will MULTIPLY or DIVIDE.
- When subtracting, the BIGGER number must go first.
- When dividing, the THING BEING SPLIT UP must go first.

PRACTICE:

(1) Amy bought 3 CDs for $15.34, $17.57, and $10.29, including sales tax. She gave the clerk $50.00. Which is closest to the amount of change Amy should receive?
   - (a) $1.00
   - (b) $7.00
   - (c) $10.00
   - (d) $17.00

(2) In his shopping cart Joe has 2 pounds of oranges at $0.99 per pound, 3 cans of soup at $1.19 per can, and 1 gallon of ice cream at $3.79 per gallon. Which is closest to the total cost of the items in his shopping cart?
   - (a) $9.00
   - (b) $8.00
   - (c) $7.00
   - (d) $6.00

(3) $0.008 \overline{0.64}$
   - (a) 8
   - (b) 80
   - (c) 800
   - (d) 8000

(4) Look at the table.

<table>
<thead>
<tr>
<th>Items Purchased</th>
<th>Number of Items</th>
<th>Cost per Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sketchpad</td>
<td>5</td>
<td>$2.99</td>
</tr>
<tr>
<td>Paintbrush</td>
<td>2</td>
<td>$5.99</td>
</tr>
<tr>
<td>Box of chalk</td>
<td>1</td>
<td>$15.99</td>
</tr>
</tbody>
</table>

Which could be used to determine the total amount of money Gwen spent before tax?

- (a) Multiply the cost per item by the number of items, then add the products
- (b) Divide the cost per item by the number of items, then multiply the quotients
- (c) Divide the cost per item by the number of items, then add the quotients
- (d) Multiply the cost per item by the number of items, then multiply the products
6.8 ORDER OF OPERATIONS

***NO CALCULATOR***

TIPS:
- If an expression has different operations, you must use PEMDAS (Parentheses, Exponents, Mult/Div, Add/Sub).
- Multiplication is not more important than Division. Addition is not more important than Subtraction. Follow the left-to-right rule and do the one you see first.
- An expression above or below a division bar has parentheses around it and must be done before dividing.
- Do one step at a time!

PRACTICE:

(1) What is the value of \(\frac{30+4 \cdot 5}{2} - 6\) ?

(a) 79  (b) 34  (c) 29  (d) 19

(2) Write your answer in the box. Do not use a calculator to solve this problem.

What is the value of \(200 - 2 \cdot 6^2\) ?

(3) What number is equivalent to \(2 \cdot 8 - 4 \div 4\) ?

(a) 2  (b) 3  (c) 14  (d) 15

(4) Directions: Write your answer in the box. Your answer must be in the form of an improper fraction. Use “/” for the fraction bar.

What is the value of \(\frac{2^2-1}{2}\) ?