

**7<sup>TH</sup> Grade Summer Math Packet 2019**

Complete each page of the 7<sup>th</sup> Grade Summer Packet. To receive full credit, you must show all work. **The use of a calculator is not permitted.** The summer packet is due Friday, September 6, 2019. The packet is to be handed in, stapled in page order with your name on the top. Please attach any scrap paper if used (be sure scrap paper is neat and has the page and question number next to each problem).

Use Summaries as a quick reference for how to complete sections.

**Reducing Fractions:**

(1) Reduce each fraction, then write the letter of its equivalent fraction from this list:

$$A = \frac{1}{4}$$

$$B = \frac{1}{2}$$

$$C = \frac{1}{3}$$

$$D = \frac{1}{5}$$

$$E = \frac{2}{3}$$

(a)  $\frac{3}{12}$  \_\_\_\_\_

(b)  $\frac{3}{15}$  \_\_\_\_\_

(c)  $\frac{8}{12}$  \_\_\_\_\_

(d)  $\frac{3}{9}$  \_\_\_\_\_

(e)  $\frac{4}{8}$  \_\_\_\_\_

(f)  $\frac{8}{24}$  \_\_\_\_\_

(g)  $\frac{4}{6}$  \_\_\_\_\_

(h)  $\frac{14}{21}$  \_\_\_\_\_

(i)  $\frac{6}{24}$  \_\_\_\_\_

(j)  $\frac{6}{12}$  \_\_\_\_\_

(k)  $\frac{5}{25}$  \_\_\_\_\_

(l)  $\frac{9}{27}$  \_\_\_\_\_

**Comparing Fractions:**

(2). Place the correct symbol on the line between each set of fractions. ( <, >, or = )

a)  $\frac{5}{7}$  \_\_\_\_\_  $\frac{5}{6}$

b)  $\frac{1}{3}$  \_\_\_\_\_  $\frac{1}{4}$

c)  $\frac{2}{9}$  \_\_\_\_\_  $\frac{2}{8}$

d)  $\frac{4}{8}$  \_\_\_\_\_  $\frac{3}{6}$

e)  $\frac{2}{3}$  \_\_\_\_\_  $\frac{3}{4}$

f)  $\frac{6}{7}$  \_\_\_\_\_  $\frac{3}{4}$

g)  $4\frac{3}{6}$  \_\_\_\_\_  $5\frac{9}{18}$

h)  $1\frac{2}{3}$  \_\_\_\_\_  $1\frac{3}{5}$

## Steps to finding Area and Perimeter

**Step 1:** Write the formula.

**Step 2:** Substitute values into formula.

**Step 3:** Show work with final solution and label.

### Formulas

Area of a Square =  $(b)(h)$

Area of a Triangle =  $(b)(h) / 2$

Area of a Parallelogram =  $(b)(h)$

Show all work. Find the Area and Perimeter of Each Figure. Do NOT use a calculator! Write the correct formula first, then show your work.

height  
4 cm



base  
8 cm

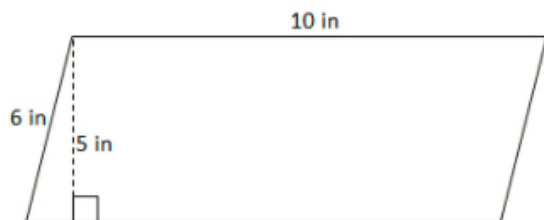
Area = \_\_\_\_\_ Perimeter= \_\_\_\_\_

5 cm



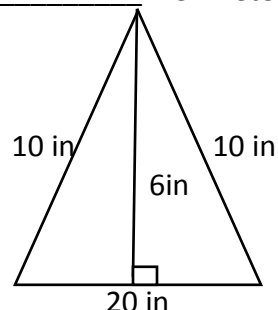
5 cm

Area = \_\_\_\_\_ Perimeter= \_\_\_\_\_



Area = \_\_\_\_\_ Perimeter= \_\_\_\_\_

Area = \_\_\_\_\_ Perimeter= \_\_\_\_\_



## Converting a Decimal to Fraction Summary

**Examples:** Write  $\frac{21}{25}$  as a decimal

**Method 1:**

Change  $\frac{21}{25}$  to a fraction with a denominator of 10, 100, or 1000

**EX:**  $\frac{21}{25} = \frac{?}{100}$

(Use 100, since 25 divides into 100 evenly)

$$\frac{21}{25} = \frac{x4}{x4} = \frac{84}{100} \quad \frac{84}{100} = 0.84 \text{ as a decimal}$$

**Method 2:** Divide 21 by 25

$$\begin{array}{r} \frac{21}{25} \rightarrow 25 \overline{)21.00} \\ \underline{-200} \\ 100 \\ \underline{-100} \\ 0 \end{array}$$

Therefore:  $\frac{21}{25} = 0.84$

Write each fraction as a decimal using the method indicated. Do NOT use a calculator!

<p>Write <math>\frac{3}{4}</math> as a decimal using <b>method 1</b></p>	<p>Write <math>\frac{7}{8}</math> as a decimal using <b>method 2</b></p>
<p>Write <math>\frac{19}{20}</math> as a decimal using <b>method 1</b></p>	<p>Write <math>\frac{3}{16}</math> as a decimal using <b>method 2</b></p>
<p>Write <math>\frac{3}{5}</math> as a decimal using <b>method 1</b></p>	<p>Write <math>\frac{27}{40}</math> as a decimal using <b>method 2</b></p>

## Multiplying Decimals Summary

**Step 1:** Multiply the numbers as if whole numbers. *Ignore decimals.*

**Step 2:** Count the total number of decimal places (from both numbers) in original problem.

**Step 3:** Starting from the right, place the **total** number of decimal places into the answer

*Multiply. Show all work.* Do NOT use a calculator!

$$1.2 \times 0.5$$

$$3.3 \times 4.6$$

$$0.4 \times 0.6$$

$$7.08 \times 3$$

$$3.4 \times 1.21$$

$$5.79 \times 2.9$$

## Dividing Decimals Summary

**Step 1:** Divide numbers as if whole numbers. *Use long division. Ignore decimal.*

**Step 2:** Place decimal point directly above the decimal point in the dividend

**Important Note:** Divisor is *not* a whole number. Move the decimal in the divisor to the right until divisor is a whole number. Then, **also** move the decimal point in the dividend the same amount of decimal places to the right.

**Reminder:** dividend  $\div$  divisor

*Divide. Show all work.* Do NOT use a calculator! All decimals are terminating.

$$12.5 \div 4$$

$$32.12 \div 5$$

$$45.9 \div 3$$

$$215 \div 10$$

$$3 \div 8$$

$$1.6 \div 5.12$$

## Adding/Subtracting Fractions Summary

**Step 1:** Each fraction must have a common denominator.

- a) Find a LCM. This will be the common denominator of your fractions.
- b) Multiply the numerator and denominator by the factor that it would take to get to your common denominator

**Step 2:** Add or Subtract your numerators. Denominator *stays the same!*

**Step 3:** Answer must be written in simplest form, must reduce! You do not need to change an improper fraction to a mixed number

*Simplify each expression by adding or subtracting the fractions. Answer must be in simplest form (can be left as an improper fraction) Do NOT use a calculator!*

$$\frac{7}{8} - \frac{1}{3} =$$

$$3\frac{1}{4} + \frac{4}{5} =$$

$$1\frac{3}{4} + 5\frac{7}{10}$$

$$3\frac{4}{5} - 1\frac{1}{3}$$

$$6\frac{3}{4} + 10\frac{5}{9}$$

$$7\frac{1}{11} - 3\frac{3}{11}$$

## Multiplying Fractions Summary

**Step 1:** Change to improper fractions, *if necessary*.

**Step 2:** Fractions are multiplied across:

Numerators multiplied to numerator. Denominator multiplied to denominator.

**Step 3:** Answer must be written in simplest form, must reduce! You do not need to change an improper fraction to a mixed number.

*Simplify each expression by multiplying fractions. Answer must be in simplest form (can be left as an improper fraction).* Do NOT use a calculator!

$$\frac{9}{10} \times \frac{1}{3} =$$

$$\frac{3}{4} \times \frac{2}{5} =$$

$$3\frac{1}{6} \times \frac{3}{10}$$

$$9\frac{2}{5} \times 2\frac{1}{2}$$

$$2\frac{1}{4} \times 3\frac{2}{3}$$

$$7\frac{3}{4} \times 2$$

## Dividing Fractions Summary

**Step 1:** Change to improper fractions, *if necessary*.

**Step 2:** K-C-F (Keep-Change-Flip).

**Keep** the first fraction. **Change** division to multiplication. **Flip** the second fraction (reciprocal)

**Step 3:** Fractions are multiplied across:

Numerators multiplied to numerator. Denominator multiplied to denominator.

**Step 4:** Answer must be written in simplest form, must reduce! You do not need to change an improper fraction to a mixed number.

*Simplify each expression by dividing fractions. Answer must be in simplest form (can be left as an improper fraction) Do NOT use a calculator!*

$$\frac{7}{8} \div \frac{1}{4} =$$

$$\frac{2}{3} \div \frac{3}{5} =$$

$$5\frac{3}{4} \div 1\frac{2}{3}$$

$$\frac{4}{5} \div 1\frac{1}{3}$$

$$3 \div 8$$

$$1.6 \div 5.12$$