



Dear Incoming 6th Grader,

I hope you will enjoy this Math Challenge Packet and work hard to complete all problems on your own or with help from a parent or guardian. All problems and projects in the challenge packet are based on the 5th grade Mathematics Florida Standards.

Therefore, this should be a review for you in some ways, but should stretch you as you apply your understandings of concepts you learned throughout this past year. Now that you are on your way to 6th grade you know how important fact fluency is. You used it a lot in 5th grade. Fact fluency will be a large part of 6th grade. If this is not a strong area for you, its okay, just take some time over the summer to build onto your fact fluency. I suggest doing a few problems a day.

Math is all about problem solving. One of the best ways to learn math is to try out problems in which you have to devise your own strategy to find the solution. There is usually more than one way to solve math problems. While working on the problems in this packet, you may discover shortcuts and use your own process or set of rules to calculate or determine the appropriate solution. Make sure to keep notes, include your work so you can justify solutions. In other words, be sure you can answer the question, "how do you know?" Explaining how you arrived at an answer immediately tells others what you are learning along the way.

If you return this packet completed with work and explanations by the first week of school to me, you will earn an ICECREAM Treat! (If you cannot have ice cream we will work out something different).

Sincerely,

Ms. Curran

6th Grade Math Teacher

Name : _____

Score : _____

Teacher : _____

Date : _____

Adding Fractions

1) $\frac{7}{8} + \frac{2}{4} =$

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

3) $\frac{7}{8} + \frac{3}{16} =$

4) $\frac{3}{4} + \frac{7}{10} =$

5) $\frac{15}{30} + \frac{12}{20} =$

6) $\frac{3}{4} + \frac{10}{24} =$

7) $\frac{3}{7} + \frac{9}{21} =$

8) $\frac{5}{7} + \frac{5}{14} =$

9) $\frac{12}{32} + \frac{2}{4} =$

10) $\frac{16}{56} + \frac{4}{7} =$

11) $\frac{2}{9} + \frac{3}{27} =$

12) $\frac{5}{7} + \frac{7}{21} =$

13) $\frac{1}{4} + \frac{3}{20} =$

14) $\frac{2}{5} + \frac{2}{4} =$

15) $\frac{4}{18} + \frac{3}{27} =$

Name : _____

Score : _____

Teacher : _____

Date : _____

Subtracting Fractions

$$1) \quad \frac{2}{3} - \frac{2}{6} =$$

$$2) \quad \frac{1}{4} - \frac{5}{48} =$$

$$3) \quad \frac{12}{55} - \frac{2}{11} =$$

$$4) \quad \frac{1}{5} - \frac{5}{50} =$$

$$5) \quad \frac{6}{9} - \frac{11}{27} =$$

$$6) \quad \frac{11}{12} - \frac{2}{4} =$$

$$7) \quad \frac{7}{11} - \frac{1}{4} =$$

$$8) \quad \frac{2}{4} - \frac{13}{26} =$$

$$9) \quad \frac{3}{4} - \frac{3}{56} =$$

$$10) \quad \frac{8}{11} - \frac{14}{22} =$$

$$11) \quad \frac{3}{4} - \frac{16}{22} =$$

$$12) \quad \frac{2}{10} - \frac{3}{20} =$$

$$13) \quad \frac{3}{13} - \frac{5}{26} =$$

$$14) \quad \frac{8}{30} - \frac{2}{12} =$$

$$15) \quad \frac{9}{10} - \frac{10}{25} =$$

Name : _____

Score : _____

Teacher : _____

Date : _____

Subtracting Mixed Numbers

1) $7\frac{4}{13} - 1\frac{9}{26} =$

2) $6\frac{5}{13} - 2\frac{3}{26} =$

3) $5\frac{7}{8} - 4\frac{2}{4} =$

4) $6\frac{9}{12} - 4\frac{1}{4} =$

5) $9\frac{2}{3} - 3\frac{2}{8} =$

6) $9\frac{8}{13} - 1\frac{3}{26} =$

7) $6\frac{4}{14} - 4\frac{1}{7} =$

8) $9\frac{2}{4} - 4\frac{9}{16} =$

9) $5\frac{2}{4} - 2\frac{1}{8} =$

10) $5\frac{1}{3} - 1\frac{3}{6} =$

Name : _____

Score : _____

Teacher : _____

Date : _____

Equivalent Fractions

$$1) \quad \frac{14}{\quad} = \frac{7}{9}$$

$$11) \quad \frac{12}{24} = \frac{4}{\quad}$$

$$2) \quad \frac{6}{7} = \frac{36}{\quad}$$

$$12) \quad \frac{12}{28} = \frac{3}{\quad}$$

$$3) \quad \frac{\quad}{9} = \frac{6}{18}$$

$$13) \quad \frac{8}{\quad} = \frac{2}{9}$$

$$4) \quad \frac{8}{28} = \frac{2}{\quad}$$

$$14) \quad \frac{4}{\quad} = \frac{24}{42}$$

$$5) \quad \frac{\quad}{9} = \frac{14}{18}$$

$$15) \quad \frac{\quad}{7} = \frac{24}{28}$$

$$6) \quad \frac{5}{7} = \frac{10}{\quad}$$

$$16) \quad \frac{\quad}{3} = \frac{4}{12}$$

$$7) \quad \frac{5}{6} = \frac{\quad}{24}$$

$$17) \quad \frac{30}{50} = \frac{\quad}{10}$$

$$8) \quad \frac{\quad}{8} = \frac{8}{32}$$

$$18) \quad \frac{\quad}{30} = \frac{2}{10}$$

$$9) \quad \frac{8}{12} = \frac{\quad}{3}$$

$$19) \quad \frac{12}{15} = \frac{\quad}{5}$$

$$10) \quad \frac{15}{40} = \frac{\quad}{8}$$

$$20) \quad \frac{5}{25} = \frac{1}{\quad}$$

Getting Ready for FSA – Grade 5

Name: _____

Date: _____

MAFS.5.OA.1.1

1. $(90 - 48) \div 6 + 2$

What is the value of the expression above? _____

Use what you know about order of operations to explain why your answer is correct.

2. A numerical expression is evaluated as shown.

$$16 + [9 \times (3 - 1) + 8] \div 2$$

Line 1: $16 + [9 \times 2 + 8] \div 2$

Line 2: $16 + [18 + 8] \div 2$

Line 3: $16 + 26 \div 2$

Line 4: $42 \div 2$

In which line does a mistake first appear?

- A. Line 1
- B. Line 2
- C. Line 3
- D. Line 4

Solve the equation. What is the correct solution? _____

3. Find the value of this expression: $6 - (\frac{1}{2} + \frac{1}{3})$ _____

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MAFS.5.NBT.1.1

10. Explain the relationship between the two 5's in the number 455,721. Use what you know about place value to explain your answer.

11. An expression is shown.

$$3,400 \times \frac{1}{10}$$

What is the value of the expression? _____

12. Which statements about the values of 0.034 and 3.40 are true? Circle ALL that apply.

- A. 0.034 is $\frac{1}{10}$ of 340
- B. 0.034 is 100 times more than 340
- C. 3.4 is 100 times more than 0.034
- D. 0.034 is $\frac{1}{100}$ of 3.4
- E. 340 is $\frac{1}{10}$ of 0.0340

Getting Ready for FSA – Grade 5

Name: _____

Date: _____

MAFS.5.NBT.1.2

13. Which expression is equivalent to 100,000?
- A. 10^3
 - B. 10^4
 - C. 10^5
 - D. 10^6
14. Which is equivalent to multiplying a number by 10^3 ?
- A. Adding 10 three times
 - B. Adding 3 ten times
 - C. Multiplying by 10 three times
 - D. Multiplying by 3 ten times
15. Which statement about the value of 3 in 9,300 and 930 is true? Circle all that apply.
- A. It is the same in both numbers.
 - B. It is 100 times as great in 9,300 as it is in 930.
 - C. It is 10 times as great in 9,300 as it is in 930.
 - D. It is $\frac{1}{10}$ the value in 930 as it is in 9,300
 - E. It is $\frac{1}{10}$ times as great in 930 as it is in 9,300

Getting Ready for FSA – Grade 5

Name: _____

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MAFS.5.NBT.1.3, MAFS.5.NBT.1.3a, MAFS.5.NBT.1.3b

16. What is "three tenths" in decimal form? _____
17. Select all the expressions that show 2.086 written in expanded form.
- ☐ $2 \times 1 + 0 \times (1/10) + 8 \times (1/100) + 6 \times (1/1000)$
 - ☐ $2 \times 1 + 8 \times (1/10) + 6 \times (1/100)$
 - ☐ $2 \times 1 + 0 \times (1/10) + 86 \times (1/1000)$
 - ☐ $20 \times (1/10) + 86 \times (1/100)$
 - ☐ $20 \times (1/10) + 8 \times (1/100) + 6 \times (1/1000)$

18. A number in expanded form is shown.

$$2 \times 1 + 0 \times \left(\frac{1}{10}\right) + 5 \times \left(\frac{1}{100}\right) + 9 \times \left(\frac{1}{1000}\right)$$

What is the number in decimal form? _____

19. Select all the statements that correctly compare the two numbers.
- ☐ $1.308 > 1.315$
 - ☐ $5.019 < 5.128$
 - ☐ $7.25 > 7.255$
 - ☐ $2.021 < 2.1$
 - ☐ $9.501 > 9.309$

20. Frank, Carl, and Daniel kept track of how far they could hit a golf ball. Look at the chart below, and then put the distances in order from greatest to least.

Golfer	Distance in Yards
Frank	277.5
Carl	279.5
Daniel	277.55

greatest

to

least

Getting Ready for FSA – Grade 5

Name: _____

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MAFS.5.NBT.1.4

21. Which number has the smaller value of the 8? How many times smaller is it?
Use what you know about place value to explain.

184.36	9,027.83
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22. My number, rounded to the nearest tenth is 6.4. What might my number be?
Justify your response.

23. The number 9.37 rounded to the nearest tenth is 9.4.
Is this correct? Why or why not?

Getting Ready for FSA – Grade 5

Name: _____

Date: _____

MAFS.5.NBT.2.5

25. What digit is in the hundred place?

$$\begin{array}{r} 6,?49 \\ \times \quad 3 \\ \hline 18,747 \end{array}$$

Explain how you know using what you know about multiplication.

26. There is a mistake in the problem shown:

$$\begin{array}{r} 4,635 \\ \times \quad 27 \\ \hline 32445 \\ 94700 \\ \hline 127,145 \end{array}$$

Identify it and give the most likely reason why it was made.

Getting Ready for FSA – Grade 5

Name: _____

Date: _____

MAFS.5.NBT.2.6

27. Select all the expressions that have a value of 42.

- ☐ $672 \div 16$
- ☐ $380 \div 13$
- ☐ $336 \div 8$
- ☐ $510 \div 15$
- ☐ $680 \div 24$

28. An expression is shown:

$$1274 \div 13$$

What is the value of the expression? _____

29. Estimate the quotient for $3,582 \div 4$ _____

Explain your estimation.

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Name: _____

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MAFS.5.NF.1.1

32. An expression is shown:

$$\frac{5}{6} + \frac{8}{12}$$

What is the value of the expression? _____

33. An expression is shown.

$$\frac{11}{14} - \frac{?}{4} = \frac{4}{14}$$

What is the missing number? _____

34. An expression is shown.

$$\frac{5}{8} + \frac{2}{?} = 1\frac{1}{40}$$

What is the missing number? _____

Getting Ready for FSA – Grade 5

Name: _____

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MAFS.5.NF.2.3

38. An expression is shown.

$$32 \div 8$$

What is the quotient expressed as a fraction? _____

39. An expression is shown.

$$151 \div 12$$

Between which two consecutive whole numbers does this value lie?
Enter your numbers in the box.

Between and .

40. Samantha brings 456 ounces of juice to her nieces' birthday party. She wants to divide all of her juice evenly among the 20 people attending the party. How many ounces of juice will each person get?

- A. $21\frac{4}{5}$ ounces
- B. $22\frac{4}{5}$ ounces
- C. $22\frac{3}{4}$ ounces
- D. $21\frac{3}{4}$ ounces

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Name: _____

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MAFS.5.NF.2.4a

41. Nancy enjoys taking her dog for walks. It is $\frac{4}{9}$ miles around her neighborhood.

If she walks her dog 9 times, how far did she walk? _____ miles

42. Mikayla filled 9 glasses each with $\frac{2}{3}$ cup of juice. What is the total amount of juice she used?

_____ cup(s) of juice

Project #11

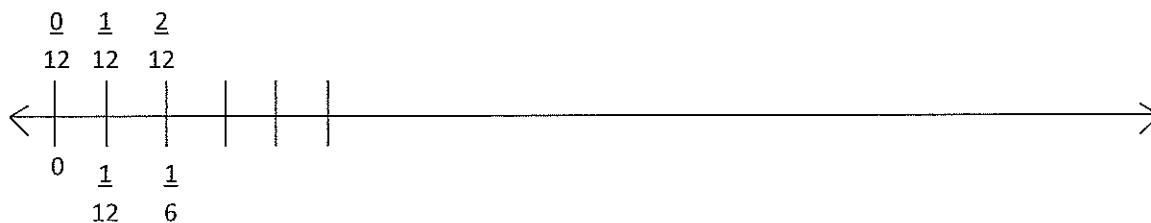
Domain: Number and Operations—Fractions

Standard:

5.NF.2 Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.

Directions:

1. Finish drawing a number line divided into twelfths. Show that the twelve equal parts add up to one whole.
2. Label your twelve parts on the number line.
3. Below the line, write each fraction in lowest terms.



4. Draw your own number line below (or on a separate sheet of paper) to show fifteenths.
 5. Label your fifteen parts on the number line.
 6. Below the line, write each fraction in lowest terms.
 7. Finally, shade your number line to show how it might be divided into thirds and halves.
8. Solve the following:

Your teacher gave you $\frac{1}{7}$ of the bag of candy. She also gave your friend $\frac{1}{3}$ of the bag of candy. If you and your friend combined your candy, what fraction of the bag would you have? Estimate your answer and then calculate. How reasonable was your estimate?

Getting Ready for FSA – Grade 5

Name: _____

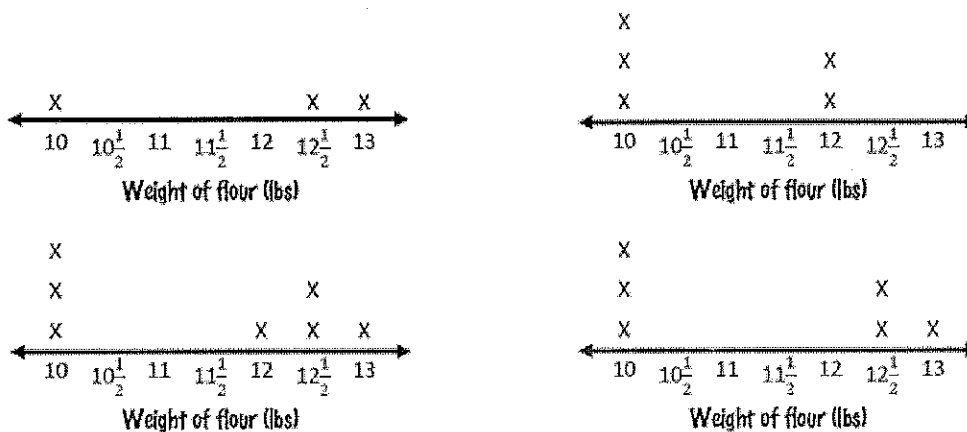
Date: _____

MAFS.5.MD.2.2

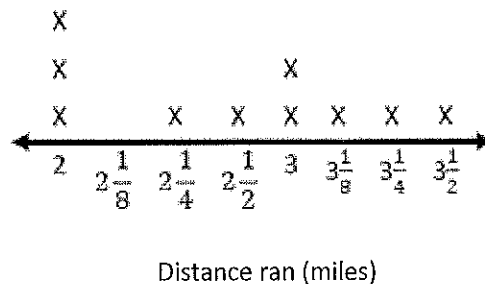
64. A baker has sacks of flour with lengths as shown below:

Sack weight (lbs)	10	$12\frac{1}{2}$	10	13	$12\frac{1}{2}$	10
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Circle the line plot that represents this data.



65. A line plot of Jessie's running distances for the month are shown.



What is the total distance, in miles, of ALL the runs?

_____ miles

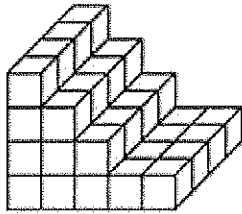
Getting Ready for FSA – Grade 5

Name: _____

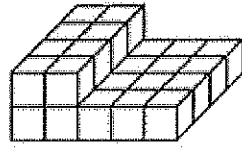
Date: _____

MAFS.5.MD.3.3a, MAFS.5.MD.3.3b, MAFS.5.MD.3.4

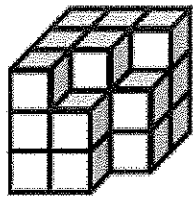
71. Find the volume of the following solids.



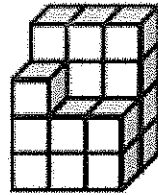
_____ cubic units



_____ cubic units

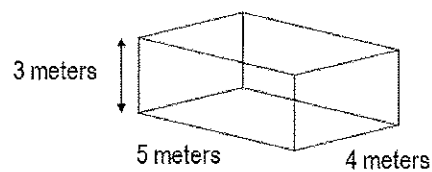


_____ cubic units



_____ cubic units

72. What is the volume of the rectangular prism?



_____ cubic meters

Getting Ready for FSA – Grade 5

Name: _____

Date: _____

MAFS.5.MD.3.5a

MAFS.5.MD.3.5b

MAFS.5.MD.3.5bc

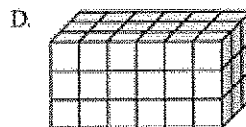
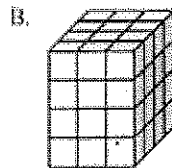
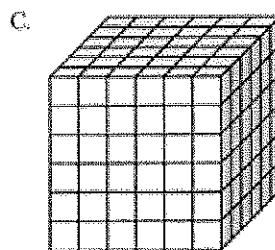
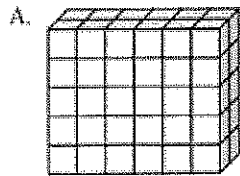
75. Select all the toolboxes that are shaped like rectangular prisms that have a volume of 98 cubic feet (ft).
- A. 7 ft. x 7 ft. x 2 ft.
 - B. 2 ft. x 12 ft. x 4 ft.
 - C. 1 ft. x 1 ft. x 98 ft.
 - D. 13ft. x 3 ft. x 2 ft.

76. An aquarium in the shape of a rectangular prism has a volume of 36 cm^3 .

It has a length of 6 cm and a width of 2 cm. What is the height of the aquarium?

_____ cm

77. Wilma used 1-centimeter cubes to build a right rectangular prism that has a volume of 60 cubic centimeters. Which of the following could represent the prism that Wilma built?

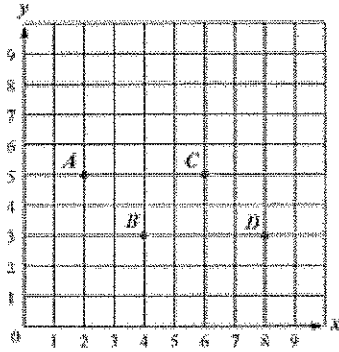


Name: _____

Date: _____

MAFS.5.G.1.1

81. Andrew is working on a coordinate plane, as shown below.



Andrew put the tip of his pencil at (6, 4). Then he moved the tip of his pencil as described below.

- 3 units right
- 2 units down
- 5 units left
- 1 unit up

Which point on the coordinate plane is the point where Andrew stopped?

- A. Point A
- B. Point B
- C. Point C
- D. Point D

Name: _____

Date: _____

MAFS.5.G.2.3 MAFS.5.G.2.4

87. Which of the following types of quadrilaterals **always** has perpendicular sides?

- A. rhombus
- B. rectangle
- C. trapezoid
- D. parallelogram

88. Jason made these 2 quadrilaterals on his geoboard.



Figure A



Figure B

Step A: What is the name of the quadrilateral in Figure A?

Step B: Jason thinks both quadrilaterals have the same name. Use what you know about geometry to explain why this is true. Use words and/or numbers in your explanation.

Getting Ready for FSA – Grade 5

Name: _____

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89. Which statement about quadrilaterals is true?

- A. Every rectangle is also a parallelogram.
- B. Every parallelogram is also a rectangle.
- C. Every rectangle is also a rhombus.
- D. Every rhombus is also a rectangle.

90. Circle the letter next to each term that can be used to describe the figure below:



- A. Polygon
- B. Rhombus
- C. Rectangle
- D. Quadrilateral
- E. Parallelogram
- F. Trapezoid

91. Which quadrilateral is always a rhombus?

- A. Kite
- B. Square
- C. Rectangle
- D. Parallelogram

92. Circle next to each letter that makes a true statement.

- A. All squares are rectangles.
- B. All rectangles are squares.
- C. All rhombuses are parallelograms.
- D. All trapezoids are parallelograms.
- E. All rectangles are parallelograms.
- F. All squares are rhombuses.

Free websites for extra practice

<http://www.amblesideprimary.com/ambleweb/mentalmaths/tabletrees.html>

<http://www.mathsisfun.com/timestable.html>

<http://resources.woodlands-junior.kent.sch.uk/maths/timestable/>

<http://www.bigbrainz.com/Multiplication.php>

<http://www.khanacademy.com>

<http://www.studyjams.com>

<http://www.multiplication.com>

<http://www.sheppardsoftware.com>

<http://www.softschools.com/>

<http://www.commoncoresheets.com/>

<http://aplusmath.com/>

APP on apple and android: Hoodamath