

## Mid-Point Math Check-ups 2009/10

Mid-point check-ups have been developed by teams of teachers from across the school division to assess **basic facts, computation and problem solving skills** at each grade level (one to nine) at the mid-point of the school year.

### **Purpose:**

The purpose of a division-wide mid-point check-up is to provide teachers with a **teacher-made** common assessment that can be discussed at the school level between grades and within PLC teams that have a math focus. These check-ups will provide a snapshot of where students are at the half-way point in the year in the three areas mentioned above. The professional discussion about the results and the sharing of successes and concerns are the key elements to the check-up.

Assessing these basic skills mid-way through the year allows time for re-emphasizing skills that are lacking and will give teachers opportunities to discuss with colleagues strategies for re-teaching and for effective opportunities for drill and practice.

Division-wide results will **not** be compiled. The results of these check-ups are for the teachers who are administering them. They will hopefully provide a common tool to generate discussion and professional dialogue around planning for the remainder of the school year. These check-ups should be administered in **January**. Principals will be asked to report the wider findings of the results as part of their annual Learning Improvement Plan. There is an attached document which teachers may find useful to lead discussion at the school level or within PLC groups.

The check-up is divided into three components: basic facts, computation and problem solving skills. As part of the assessment, teachers will engage in an interview portion of the assessment with each student. These check-ups will likely take 2 sittings. No time limit has been placed on the time students are allowed to take to complete the assessment. Some questions may be seen as a “post-test” assessment, while other questions may represent a “pre-test” for skills to be taught in the 2<sup>nd</sup> half of the year.

Note that all of the **interview questions** do not have to be done by all of the students. Teachers may choose how many students do each interview question.

Questions about the assessment can be directed towards Brian, Ron or any of the math catalyst teachers.

Thanks to the following teachers who assisted in developing the midpoint assessments: Kristin Becotte, Crystal Dodds, Margot Sauer, Susan Hrysak, Jackie Preddy, Beryl Fisher, Amanda Pockrant, Brent Keen, Deb Pylot, Tyson Mutch, Dean Powell, Laurel Derenoski, Lambert Schwarzenberger, Amber Clark, David Pero, Jason Stein, Terry Dallyn, Cindy O'Donnell, Susan Plant, Wade Worman and Cindy McKerchar.

**Grade 8 Mid-Point  
Math Check-up  
(Teacher Copy)**

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Each question will have a number indicating the question's correlation to the grade 8 curriculum.

Tell us what you thought! After each section, circle a happy or sad face.

If the question was easy, circle the smile!

If the question was hard, circle the frown!



Easy



Hard

**Part 1 - Basic Facts and Computation**

For oral questions, state question, give a 3 second pause and state question again with a 3 second pause.

**A. Oral Addition Facts**

1. 45 (10 + 35)

2. 25 (12 + 13)

3. 50 (27 + 23)

4. 47 (36 + 11)

5. 370 (120 + 250)

**B. Oral Subtraction Facts**

1. 50 (80 - 30)

2. 62 (78 - 16)

3. 220 (360 - 140)

4. 9 (18-9)

5. 36 (48 - 12)

**C. Oral Multiplication Facts**

1. 56 (8x7)

2. 72 (9x8)

3. 39 (13x3)

4. 125 (5x25)

5. 900 (30x30)

**D. Oral Division Facts**

1. 8 (64 ÷ 8)

2. 8 (24 ÷ 3)

3. 12 (120 ÷ 10)

4. 4 (200 ÷ 50)

5. 7 (77 ÷ 11)



**E. Oral Squares and Square Root Facts (Curr. N 8.1)**

1. 16 ( $4^2$ )    2. 64 ( $8^2$ )    3. 121 ( $11^2$ )

4. 7 ( $\sqrt{49}$ )    5. 9 ( $\sqrt{81}$ )    6. 12 ( $\sqrt{144}$ )



**F. Computation:**

**Addition**

1) 
$$\begin{array}{r} 675 \\ + 298 \\ \hline 973 \end{array}$$

2)  $254.12 + 132.9 = 387.02$

3)  $[8 + (-2)] = 6$

**Subtraction**

1)  $631 - 141 = 490$

2)  $313.14 - 2.4 = 310.74$

3)  $[4 - (-2)] = 6$

**Multiplication**

1)  $184 \times 18 = 3312$

2)  $23.2 \times 18.5 = 429.2$

3)  $1000 \times 3.48 = 3480$

**Division**

1)  $6276 \div 12 = 523$

2)  $3 \div 1.65 = 0.55$

3)  $624 \div 100 = 6.24$



**G. Order of Operations (Curr. N 8.4)**

$$1) 6 + 8 \times 20 - 100 =$$

**66**

$$2) 8 \times (4 - 1) \div 4 =$$

**8**

$$3) (24 - 11) \times 3^2 =$$

**117**

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

**2/3**



**H. Fraction Operations - Please change all answers to mixed fractions where applicable. (Curr. N 8.4)**

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

**6/7**

$$2) \frac{2}{3} - \frac{1}{4} =$$

**5/12**

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

**3\frac{11}{12}**

$$4) 4 \times \frac{2}{7} =$$

**1\frac{1}{7}**

$$5) \frac{8}{9} \div 4 =$$

**2/9**

$$6) \frac{2}{5} \times \frac{7}{2} =$$

**1\frac{2}{5}**



## Part 2 - Number and Word Problems

### A. Number Sense

1. Place the following in ascending order. (least to greatest) Explain how you arrived at your answer.

4, -3, 9, 2, -6, 0, -12  
**-12, -6, -3, 0, 2, 4, 9**

2. Place the following in descending order. (greatest to least) Explain how you arrived at your answer.

$\frac{1}{4}$ ,  $\frac{1}{3}$ ,  $\frac{5}{8}$ ,  $\frac{2}{5}$   
 **$\frac{5}{8}$ ,  $\frac{2}{5}$ ,  $\frac{1}{3}$ ,  $\frac{1}{4}$**

3. In the number *one hundred thirty-two thousand seven hundred forty-eight and six hundred twenty-four thousandth*, what digit lies in each of the following place values.

a) tens  
**4**

b) hundredths  
**2**

c) ten thousands  
**3**

4. Please list all the factors of 32.

**1, 2, 4, 8, 16, 32**

5. Please list the first 5 multiples of 20.

**20, 40, 60, 80, 100**



## B. Word Problems

Please show all your work. Show all calculations and thought processes. Do not erase your work. You may refer to the strategies chart to determine which strategy you used for each problem.

1. Coop Electricians make \$25.00 per hour for the first 40 hours worked per week. They make two times the hourly rate for each hour they worked over 40 hours. One week, they worked 50 hours. How much would an electrician expect to make in that week? What strategy did you use to solve the problem? (Curr. N 8.3)

\$1500



2. The temperature in Meadow Lake on March 13<sup>th</sup> was +10°C at 2:00 p.m. By 6:00 p.m. the temperature had dropped to -9°C. What was the overall drop in temperature over the 4-hour period? What strategy did you use to solve the problem? (Curr. N 8.5)

19 degrees



3. At a particular school there are 4 boys for every 5 girls in grade 8. If there is a total of 81 students in grade 8, how many of them are boys? How many are girls? How do you know your answers make sense? What strategy did you use to solve the problem? (Curr. N 8.3)

36 boys, 45 girls



4. A recipe for 12 muffins calls for 1 egg,  $\frac{1}{2}$  cup of milk, 2 cups of flour and  $\frac{1}{3}$  cup of sugar. If you wanted to make 36 muffins, what would the new amounts be? What strategy did you use to solve the problem? (Curr. N 8.3)

3 eggs, 1 1/2 (1.5)cups of milk, 6 cups of flour, 1 cup of sugar.

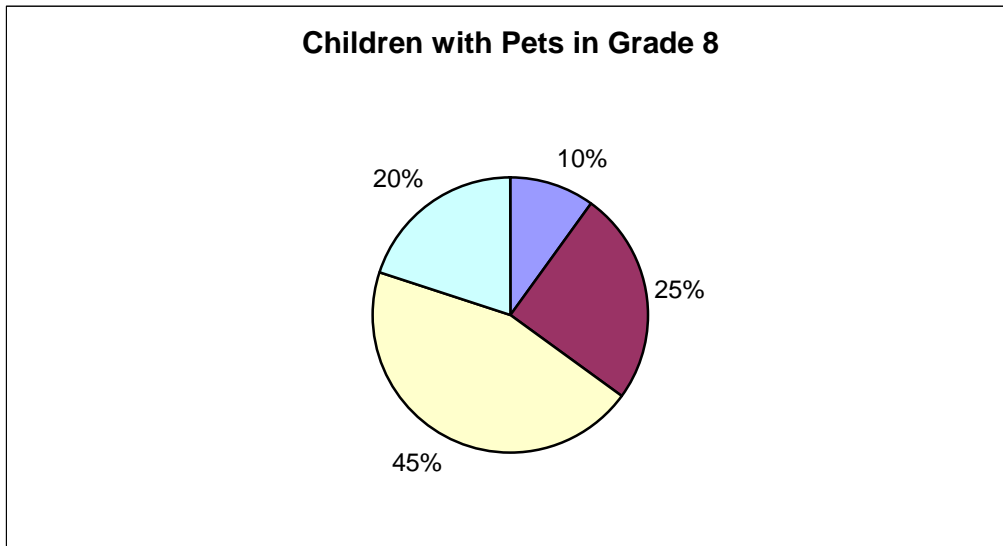


5. John was landscaping his square backyard. He calculated that he needed exactly  $81\text{m}^2$  of grass sod to cover his entire lawn. He also wanted to buy a fence to go all the way around his backyard. How many meters of fencing must John buy? What strategy did you use to solve the problem? (Curr. N 8.1)

36 m of fence.



6. Two grade 8 classes were asked what pets they had at home. 40 students were asked and their results were put in a circle graph. The largest group had no pets at all, the second largest had dogs, the third largest had cats, and the smallest group had either a bird or a fish. Based on the graph below, how many of the students were in each group? Explain how you solved the problem. What strategy did you use? (Curr. N 8.2 & SP 8.1)



No pet - 18  
Dog - 10  
Cat - 8  
Bird/Fish - 4



Name: \_\_\_\_\_

### Part 3 - Interview

The following section is designed to be done one-on-one with the instructor. However, you may choose to apply these questions in an alternate appropriate manner. You will need a variety of manipulatives for this section. Suggested manipulatives are money, pattern blocks, fraction strips, fraction circles, and graph paper.

Record students' responses in the space provided.

1. How would you round 144.4347 to the nearest hundredth?
  
  
  
  
  
  
  
  
  
  
2. Using the manipulatives provided model the following fraction questions.

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

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

3. What strategy would you use to multiply  $14 \times 9$  in your head?