MDTP is developing a new test and written response materials to help teachers diagnose student errors and misconceptions to prepare students for the CAHSEE.

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CAHSEE: High-Stakes Test

• Students must pass CAHSEE to graduate from HS
• CAHSEE scores are used in calculating API and AYP in Grade 10
  • API: passing (“basic”) score of 350
  • AYP: proficient score of 380
  • Advanced score is 422
Preparing for the CAHSEE

• Grades 6-9
• Dedicated 10\textsuperscript{th} grade CAHSEE preparation classes
• Regular 10\textsuperscript{th} grade mathematics classes
  – Algebra I (23%)
  – Geometry (33%)
  – Algebra II (25%)
MDTP’s Role

• Develop a **diagnostic** test to identify students’ misunderstandings to help teachers more effectively teach concepts and skills that are tested on the CAHSEE

• Develop a suite of written response items to supplement the diagnostic test

• Rollout in fall 2012 through two statewide meetings
CAHSEE Preparatory (CP) Diagnostic Test

• Currently field-testing second version of a 45-item diagnostic test

• Test topics are:
  – Integers and Exponents
  – Fractions, Decimals, and Percents
  – Data Analysis, Probability, and Statistics
  – Measurement of Geometric Objects
  – Algebra and Functions, including Algebra I
  – Number Line, Coordinate Plane, and Graphing
9409. Which of the following could be the coordinates of point Q in the figure to the right?

(A) (0, -3)  (B) (-3, 0)

(C) (0, 3)  (D) (3, 0)
9411. What is the area of triangle \( ACD \) shown to the right?

(A) 330  
(B) 480  
(C) 660  
(D) 825
9428. What is the area of the shaded triangle shown to the right?

(A) 6   (B) $\frac{9}{2}$

(C) 3   (D) $\frac{3}{2}$
CP Written Response Items

• Suite of 12-15 written response items
• Nine are existing items
• Six are new items being field-tested this year
Existing Written Response Items

- PR05DART
- PR05RVOL
- AR94FLAG
- AR94CAKE
- AR94PNCH
- PR05COIN
- AR96LINE
- GR97HGHT
- AR94WIRE
# New Field Test Written Response Items

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1. Compare the values of $\frac{1}{8}$ and 8. State which is greater or if they are equal. Show or explain how you know.

2. Compare the values of 8% and 0.8. State which is greater or if they are equal. Show or explain how you know.

3. Compare the values of $\frac{1}{8}$ and 1.8. State which is greater or if they are equal. Show or explain how you know.

4. Write the numbers below in order from least to greatest. Show or explain how you know:

   $0.8 \quad \frac{1}{8} \quad 1.8 \quad 8\%$
The points (1,2), (-3,2), and (-3,-1) are plotted in the coordinate plane below.

1. Connect the plotted points above to make a triangle. What is the area of this triangle? Show or explain how you found the area.

2. What is the perimeter of this triangle? Show or explain how you found the perimeter.

3. What is the slope of the hypotenuse of this triangle? Show or explain how you know.
Students in a math class were asked to plot the point $P$ at (-1,2) in the coordinate plane.

A. One student plotted $P$ incorrectly as shown. Explain to this student how to correctly plot the point (-1,2).

B. Plot and label the point $P$ at (-1,2) and point Q at (-1,-3) in the coordinate plane.

C. The point with coordinates (-1,-3) is 5 units away from (-1,2). Write the coordinates of two other points that are located 5 units away from (-1,2). Show how you know the distance from (-1,2) to each of your points is 5 units.
A. Sam wrote $3 \frac{2}{3} = \frac{11}{3}$. Is Sam correct? Show or explain how you know.

B. Sam’s rectangular garden has a width of $1 \frac{1}{2}$ yards and a length of $3 \frac{2}{3}$ yards. Find the area of Sam’s garden.

C. In this garden, Sam wants to have 11 plots of equal area to grow vegetables. Find the area of one plot.

D. Ann’s rectangular garden has a width of $1 \frac{2}{3}$ yards and a length of $3 \frac{1}{2}$ yards. Does Ann’s garden have the same area as Sam’s garden? Show or explain how you know.
A. One lap around Jen’s block is \( \frac{2}{5} \) of a mile. One day Jen runs 4 laps. She recorded this distance as \( 1 \frac{3}{5} \) of a mile. Was she correct?

B. If Jen continues to run 4 laps each day, calculate the total distance she would run in 5 days.

C. If Jen wants to run 26.2 miles, how many laps will she need to run?

D. If Jen runs 4 laps each day, how many days will it take her to run 26.2 miles?
Tara is starting to learn about fractions. She asks you for help. DO NOT USE DECIMALS IN YOUR EXPLANATIONS BELOW.

A. Which of the two fractions, $\frac{3}{6}$ or $\frac{4}{6}$, is greater? Show how you would convince Tara that your answer is correct.

B. Which of the two fractions, $\frac{5}{6}$ or $\frac{5}{8}$, is greater? Show how you would convince Tara that your answer is correct.

C. Which of the two fractions, $\frac{1}{8}$ or $\frac{3}{25}$, is greater? Show how you would convince Tara that your answer is correct.
Using Written Response Items in Class

• Select appropriate WR item
• Provide enough time for students to think about the item and to carefully and clearly answer the questions
• Collect student work and score responses using general and specific rubrics
• Consider sharing general and specific rubrics with students and giving them an opportunity to score their own work and rewrite some of their responses
• Keep exemplars
• Record results to show student growth