

Workshop Handouts

for

District 8 Math Consortium



Mathematics Workshop

“It’s not too late – Quality lessons to help with exam review”

March 2003

Prepared by

David Ritchie



Mathematics Workshop

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AGENDA

1. Welcome and Workshop Rationale
2. Grade 8 Short and Extended Response Questions
3. Test Strategies – Teachers modelling for Students
4. Quality Lessons based on Mathematics Progress Indicator Results
5. Planning for next year
 - Schedule common meeting time for each Grade level mathematics team
 - School Leadership Team involvement in common meeting times
 - Implementation of 75 minutes Mathematics Block
 - Purchase of class manipulative materials: including rulers, protractors
 - Implementation of school-wide policy on bound Student Notebooks for class work and use of loose leaf for Homework.
 - Support needed to implement changes for next year.

Extract from Grade 6 Resources

from



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Interpreting and Analysing the Mathematics Progress Indicator Results

A Process

1. Review the success of your students by looking for the questions in which the students performed poorly.
2. Order these questions from poor performance to good performance
3. Analyse the math behind the question
4. Determine a solution or lesson strategy to help improve student performance.

Class:

Level: D

Form: 1

Ranking Poor to Good	Question No.	Math behind the question	Solution or lesson strategies
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

If necessary, add another page.

Sample Interpretation and Analysis of Mathematics Progress Indicator Results – Level D, Form 1

Ranking	Level D Form 1		
Poor to Good	Question No. less than 40%	Math behind the question	Solution or lesson strategies
1	18	graph interpretation	
2	4	diagram of change then fractions	could use ruler if students can measure and read accurately to eighth of inch
3	21	units conversion grams to kilograms	has this been done
4	46	area and scale	similar scenarios, students draw scale diagrams
5	28 *	probability	conduct similar experiments, drawing from a bag, "Marble Jar Activity"
6	50	input/output machines	similar scenarios, with teacher modelling how to test a number
7	8	units conversion meters to kilometers	has this been done
8	39	probability	
9	25		<i>conduct similar experiments, design spinner to set probability, Peter Hickey workshop</i>
10	34	rates	difficult as need to join 2 parts of the question together, misunderstanding of rates
11	48	problem solving	draw a diagram
12	17	graph interpretation	
13	36 *	axis of symmetry in polygons	construct and draw
14	47		
15	30 *	quadrilateral properties	very tricky, draw diagram
16	49	spending money	
17	42	inequality word problem	
18	32 *	transformation - rotations	Have they done it?
19	43	taxi rate problem	City PAM Favorite - no teacher should exclude this type of problem
20	31	order of operation	Have they done it?
21	37	divisible: key word AND	
22	26	measurement estimate of ounces	Have they done it?
23	11	graph interpretation	
24	9 *	decimal estimation	Modelling estimation by the teacher
25	19	time and tenth of seconds	
26	44	taxi rate problem	City PAM Favorite - no teacher should exclude this type of problem
27	35	elapsed time	Diagram, train schedules
28	41 *	rates - unit rate a good strategy	Have they done it? Do not use proportion and cross multiply
29	6 *	fraction multiplication	Best estimate. Mental Math sheet

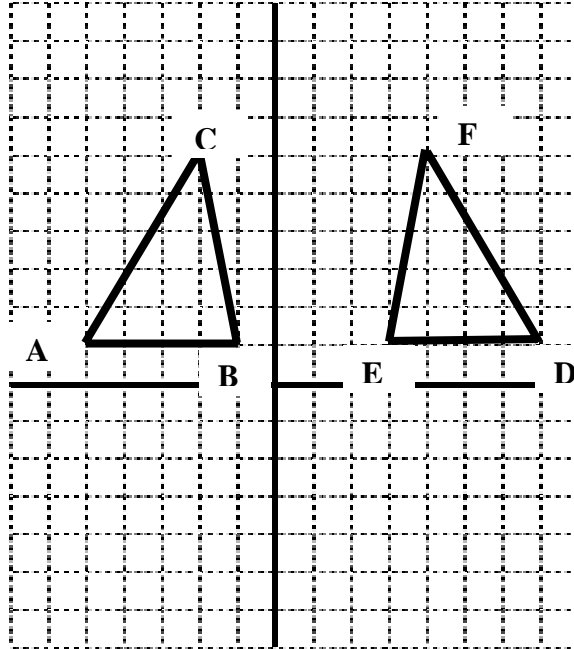
Sample Interpretation and Analysis of Mathematics Progress Indicator Results - Level D, Form 2

Ranking	Level D Form 2		
Poor to Good	Question No. less than 40%	Math behind the question	Solution or lesson strategies
1	16	Temperature on thermometer, units of 0.2	Reading and creating scales
2	19	Area of non-right-angled triangle	Have they done it? Make, measure and calculate
3	27	Problem Solving and Modelling	
4	36	Algebraic equation?	Have they done it? Seems to me to be a ridiculous question
5	43	Graph interpretation	Have they done it? Need to do more than draw graphs? Get students to make up questions?
6	44	Dice probability	Have they done it? Simple experiments.
7	45 *	Grid transformations	Have they done it? Slide, reflect, rotate
8	46 *	Algebraic equation?	Table of information
9	47 *	50 / x = 45	Number sense. Structure questions. Calculator exploration. Test strategy: Test and check
10	48	How many turns of wheels?	Reading of question. Model Shared Reading with Overhead Projector
11	37	1.36 pounds - Mixed numbers to lowest terms	
12	26	Graph interpretation	Have they done it? Need to do more than draw graphs? Get students to make up questions?
13	39	Scale Drawing	Have they done it? Similar Problems, more than once
14	42	Graph interpretation - largest increase	Have they done it? Need to do more than draw graphs? Get students to make up questions?
15	49	3 x A < 12 + B	Test strategy: Test and check
16	40	LCm	
17	18	Operation into words	
18	14	Best estimate	
19	50		
20	21		
21	10		
22	31		
23	30		

Geometry and Spatial Sense – Review 6-2-45

Question 45, Level D, Form 2

Look at the figures on this coordinate grid.



Scale: 1 square = 1 unit

What directions would move $\triangle ABC$ to coincide with $\triangle DEF$?

A	Slide $\triangle ABC$ 8 units to the right
B	Reflect $\triangle ABC$ across the y-axis
C	Slide $\triangle ABC$ 2 units to the right, then reflect it across the y-axis
D	Reflect $\triangle ABC$ across the y-axis, then slide it 2 units to the right

The Fundamental Concept

Rotate means turn

Reflect means flip

Translate means slide

Practice Questions

See the following pages, "Transformation Triangles 1 to 4"

There is a blank page for creating new questions.

Remember to also explore transforming quadrilaterals and polygons.

Follow-up task

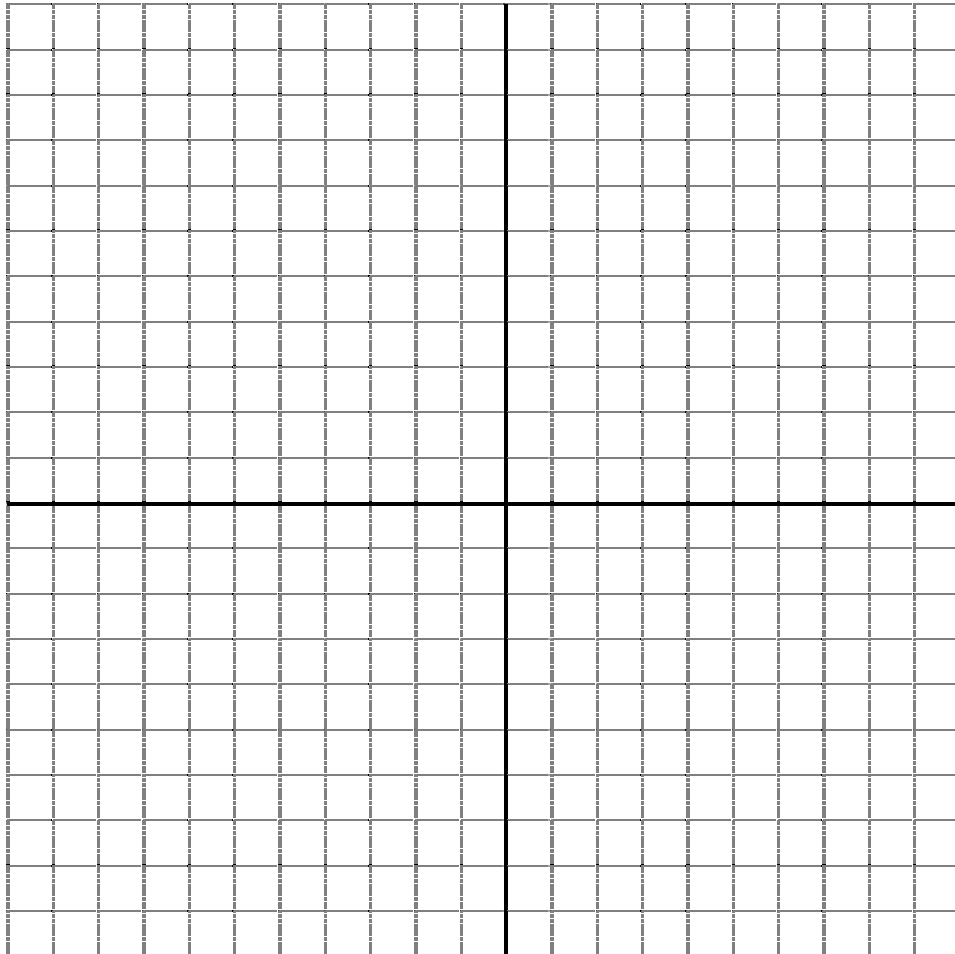
1. Write your own question like the one above
2. Explain what you are doing. (next to or under your working)

Name:

Date:

Transformations – Triangles 4

1. On the graph below, plot and connect the points A(2,2), B(3,9) and C(6,4).



2. Reflect (flip) the triangle about the y-axis. What are the positions of the points?

$A'(\quad, \quad)$, $B'(\quad, \quad)$, $C'(\quad, \quad)$

3. Next, translate (shift) the new triangle down 11 units. What are the positions of the new points?

$A''(\quad, \quad)$, $B''(\quad, \quad)$, $C''(\quad, \quad)$

4. Now, multiply all the x-coordinates by -1 . What are the positions of the new points?

$A'''(\quad, \quad)$, $B'''(\quad, \quad)$, $C'''(\quad, \quad)$

Is there another of describing the last transformation?

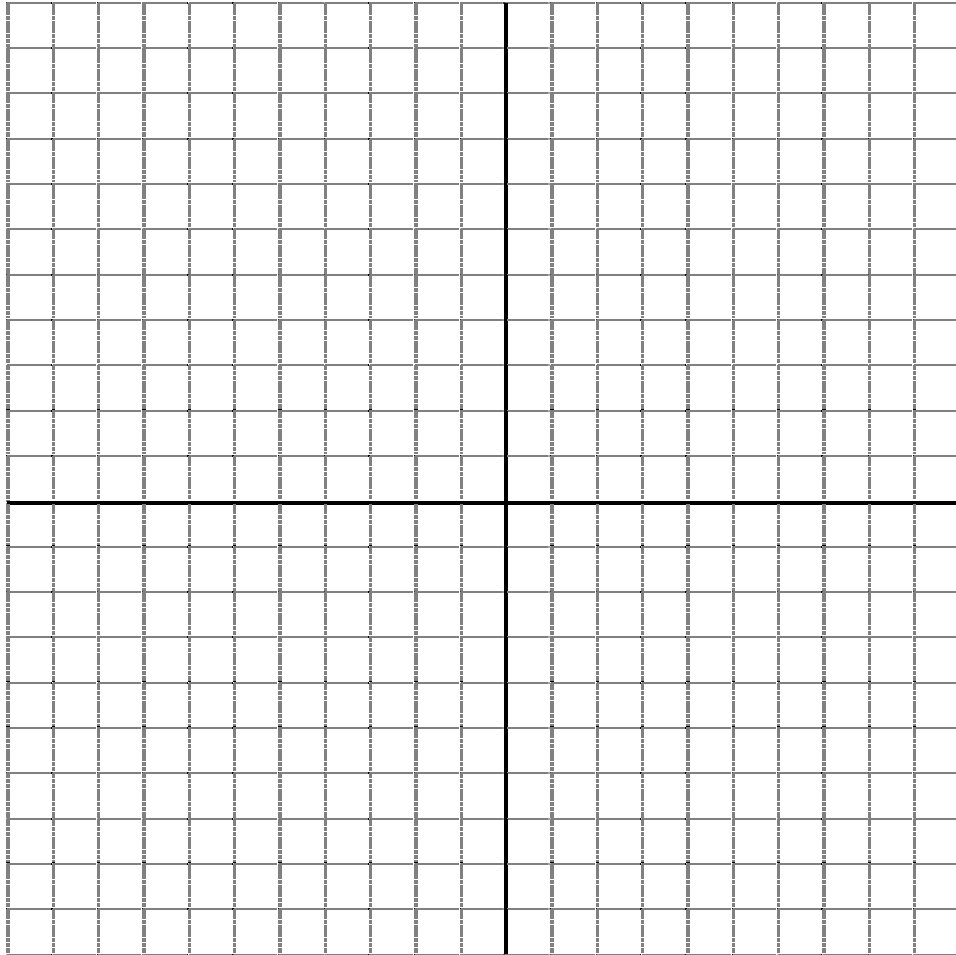
Follow-up activity: Design a similar question sheet.

Designer's Name:
Tester's Name:

Date:
Date:

Transformations

1. On the graph below, plot and connect the points



2.

3.

4.

Extract from Grade 7 Resources

from



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Class:

Level: E

Form: 1

Ranking Poor to Good	Question No.	Math behind the question	Solution or lesson strategies
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

If necessary, add another page.

Sample Interpretation and Analysis of Mathematics Progress Indicator Results - Level E, Form 1

Ranking	Level E Form 1		
Poor to Good	Question No. less than 40%	Math behind the question	Solution or lesson strategies
1	47	volume stacking	Have they done it?
2	30	scale	Have they done it?
3	12	add zeros	
4	41	area triangle	Have they done it?
5	27 *	circumference	Have they done it?
6	25 *	percentage	underlying concept, part out of 100
7	33 *	perimeter	construction, large version and make students walk around the shape
8	37	draw diagram	make
9	7	distributive law	
10	35 *	algebra or non-algebra approach	Table
11	42	mean	line diagram, "Data about Us"
12	34 *	angle estimation	clock angles
13	46		
14	50		
15	32		
16	45		
17	26		
18	28		
19	8		
20	40		
21	49		
22	6		
23	13		
24	23		
25	39		

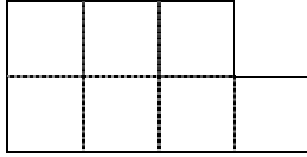
Sample Interpretation and Analysis of Mathematics Progress Indicator Results - Level E, Form 2

Ranking	Level E Form 2		
Poor to Good	Question No. less than 40%	Math behind the question	Solution or lesson strategies
1	45 *	Ratio/Decimal/Proportion	Alternate approach, common sense sentences
2	11 *	Percentage estimation	Use 10% approach
3	14	Survey sample	
4	50	Diagram draw	
5	15 *	Algebraic proportion	Table of values - guess and check
6	37 *	Percentage equivalent	30% is 540
7	46 *	Tricky	Do similar question. Make, cut and past
8	49 *	Scale	Have they done it? Similar to Grade 8 maps
9	6	Pounds	Did it put them off?
10	29	Area, fractions	Have they done it?
11	39 *	Graph shape on grid	Have the done it?
12	44	Best. Tricky	
13	34	Forming algebraic expression	
14	38	Volume to capacity	Have they done it?
15	26	% higher	
16	33	2 steps/mean/above mean	Have they done it? "Data about us"
17	42	Graph	
18	28 *	scientific notation	Do student understand or just trying to remember the rule
19	8		
20	10		
21	48		
22	13		
23	30		
24	25		
25	17		

Measurement – Review 7-1-33 - Teacher Notes

Question 33, Level E, Form 1

The figure below represents a concrete patio. The patio is composed of 7 squares, each with a perimeter of 8 meters.



What is the perimeter of the entire patio?

- | | |
|----------|-----------|
| A | 12 meters |
| B | 24 meters |
| C | 28 meters |
| D | 56 meters |

The Fundamental Concept

Perimeter is the distance around the outside of a shape

The Trap

The work out the side length of one square then the perimeter of the shape. To help work this out write on the diagram or draw a separate diagram and calculate the perimeter.

Approaches to improve student understanding

There are several great ways to approach review for this type of question.

Here are some ideas:

1. Use tape to mark out a similar problem on the floor tiles
2. *Make large squares from construct card and make the design on the floor or use two-sided tape to display on the chalkboard.*
3. Get the students to construct the design on inch dot paper.

It is important to act out the problem by making a model of this type of situation, as this is far more powerful than just drawing a diagram and just talking about the question.

If you just plan to review the question without further exploration by the students try the approach on the following 2 pages, "Measurement – Review 7-1-33 – Student Activity"

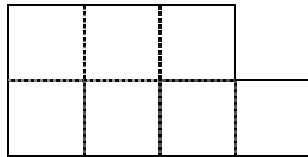
Measurement – Review 7-1-33 – Student Activity

What you have to do!

1. Read the following question
2. Review the working done by three different students
3. Explain to the right hand side of their working what they are doing?
4. Complete the follow-up task

Read and analyse the question

The figure below represents a concrete patio. The patio is composed of 7 squares, each with a perimeter of 8 meters.



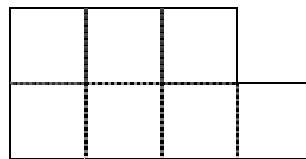
What is the perimeter of the entire patio?

- | | |
|----------|-----------|
| A | 12 meters |
| B | 24 meters |
| C | 28 meters |
| D | 56 meters |

The Fundamental Concept

Perimeter is the distance around the outside of a shape

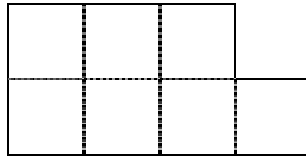
Review Student 1's answer



The answer is 7×8 or 56 meters.
So the answer is D.

Explain what the student did?

Review Student 2's answer

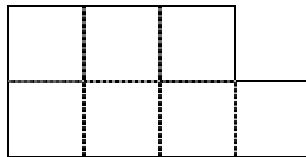


Perimeter is around the outside you get 12.

So the answer is A.

Explain what the student did?

Review Student 3's answer



Perimeter is around the outside you get 24.

So the answer is B.

Explain what the student did?

Follow-up task

1. Write your own question like the one above
2. Do the question like one of the student sample answers. (do it over the page)
3. Explain what you are doing. (next to or under your working)

Patterns, Functions, Algebra – Review 7-1-35 – Teacher Notes

Question 35, Level E, Form 1

The field hockey team at a middle school has 12 more players than the softball team. The two teams have a total of 80 players. How many players are there on the softball team?

- | | |
|----------|----|
| A | 28 |
| B | 34 |
| C | 52 |
| D | 68 |

Traditional Approach

Many teachers model an algebraic approach to this type of question. Many students given some coaching can develop good skills in doing “Guess and Check”

As a teacher you should model for the students how to organize their information in a table of values.

Alternative Approaches

Approach 1 – split the players equally and then “Test and Review”

Field hockey	Softball	Thoughts
40	40	Split equally. Hockey need more
50	30	Hockey has 20 more (too much)
45	35	Hockey only has 10 more (needs be to 2 more)
47	33	Hockey has 14 more (too much)
46	34	Hockey has 12 more and total players is 80

Approach 2 – take the excess of the total and divide the remaining players equally.

Field hockey	Softball	Thoughts
12 more than softball		Total of 80
		If hockey has 12 more than, each share $80 - 12$ that is 68
34	34	Each have half of 68
46	34	Total for each team

Similar Questions

Continental Press Form 1, 2 and 3 of Mathematics Progress Indicator Levels D, E, F. (Level F, Form 1, Qu 44)

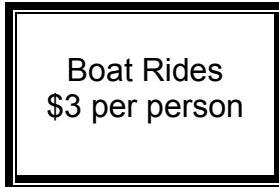
Follow-up task

1. Write your own question like the one above
2. Explain what you are doing. (next to or under your working)

Other Questions

Question 46, Level D, Form 2

Use this sign to answer the questions below.



The members of the bird-watching club took the boat to an island. They paid \$192 all together for the boat ride. If there are 6 more women than men in the group, how many women are there?

F	35
G	38
H	70
J	99

Question 15, Level E, Form 2

Mrs Snyder owns a car wash.

The car wash offers a choice of Regular Wash or Deluxe Wash. One day there was a total of 110 customers. The number of customers who chose Regular Wash was 24 more than the number who chose Deluxe Wash. How many customers chose Regular Wash that day?

A	67
B	71
C	79
D	86

Question 44, Level F, Form 1

A total of 1,060 people attended two performances of the school play. At the first performance there were 120 more people than at the second performance. How many people attended the first performance?

F	470
G	590
H	650
J	940

Computation and Numerical Estimation – Review 7-2-11

Question 11, Level E, Form 2	
Which is the best estimate of $2.5\% \times 163.8$?	
A	4
B	8
C	18
D	40

Reading the Question – Key Word

best estimate

Fundamental Concepts

Percent (%) means out of (every) 100.

Traditional and Alternative Approaches

- There are many approaches to solving this question. (See Percentage Study Sheet and Study Help).
- Using **benchmarks** and **estimation** results is a quicker process for solving this problem.

Some approaches

Think 25% of 160 = _____

Then 2.5% is 25% divided by _____, so answer is _____ divided by _____ = _____

Think 10% of 160 = _____

Then 2.5% is 10% divided by _____, so the answer is _____ divided by _____ = _____

Think 1% of 160 = _____

Then 2.5% is $1\% + 1\% + 0.5\%$, so the answer is _____ + _____ + _____ = _____

Benchmarks

If students develop skills in the use of 100%, 10% and 1% benchmarks they can complete most percentage problems. This method eliminates the rules of moving decimal points as taught in many classrooms.

Further Practice

Do similar questions.

Percentage Study Sheet and Study Help

Follow-up task

1. Write your own question like the one above
2. Explain what you are doing. (next to or under your working).

Percentages – Using 100% as a Building Block

Teacher Notes

The method is based on the foundation concept that

100% means you have the total amount, the whole thing.

This method can be completed with a “stick in the sand” there is no need for a fancy calculator.

Students need to be able to add up and multiply and divide by 2, 5 and 10.

This method uses a table.

1. In the 1st column you record the %;
2. In the 2nd column you record the \$;
3. The first three entries are for 100%, 10% and 1% to form the building blocks for other percentages.

Example 1: Find 37% of \$250

The first three entries are for 100%, 10% and 1% to form the building blocks for other percentages.

Students will develop their own methods. Some will do 10%, 10%, 10%, some will do 30%, some will do 20% ,10%.

%	\$
100%	\$250.00
10%	\$25.00
1%	\$2.50
10%	\$25.00
10%	\$25.00
10%	\$25.00
5%	\$10.00
	%2.50
1%	\$2.50
1%	\$2.50
Total %	Total \$
37%	\$92.50

In the 1st column you record the %.

In the 2nd column you record the \$.

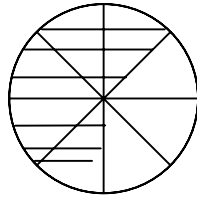
Percentages

Study Sheet

1. Which of these is the best estimate of 12% of 50.34?

- A. 4
- B. 6
- C. 8
- D. 10

2 The circle below is divided into 8 equal sections



Which of these numbers does not name the portion of the circle that is shaded?

- A. $\frac{5}{8}$
- B. $\frac{10}{16}$
- C. 62.5%
- D. 0.0625

3 Mr Winner invested \$1800. The stock market went down and he lost \$900. Then it went back up and he regained \$300. What percent of his original investment does Mr Winner have now?

- A. 25%
- B. $33\frac{1}{3}\%$
- C. 50%
- D. $66\frac{2}{3}\%$

4 Which of these is the best estimate of 7.5% of 163.8?

- A. 4
- B. 12
- C. 40
- D. 120

5 Brian marked a X on each day that it rained in April.

April						
S	M	T	W	TH	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

On what percent of the days in April did it rain?

- A. 6%
- B. 12%
- C. 20%
- D. 60%

6 Sales of Pottery went from \$400 per day to \$500 per day. The sale of pottery was mostly likely to have been about

- A. 15% higher
- B. 25% higher
- C. 40% higher
- D. 50% higher

Percentages

Study Help

Reading the question

Underline or circle the key (important) words. If you wish cross out the unnecessary words

Look for the words related to accuracy: nearest unit, nearest tenth.

Be careful of the words "best estimate". This normally means there is one answer that is better than the rest.

Basic Facts -Remember common percentage, fraction and decimal equivalents.

Percentage	Fraction out of 100 and reduced	Decimal
25%		
50%		
75%		
10%		
20%		
5%		
1%		

5 Ways of doing question Type 1 - Find 12 as a percentage of 30

Equivalent Fractions $\frac{12}{30} = \frac{4}{10} = \frac{40}{100}$ so 40%	Fraction of 100 $\frac{12}{30} \times 100 = \frac{1200}{30} = 40\%$	As a proportion $\frac{12}{30} = \frac{x}{100}$ cross-product $30x = 1200$ $x = 40$
Convert to a decimal $\frac{12}{30} = 0.40$ 0.40 so 40%	By 1st Principles - Using words 12 out of 30 (divided by 3) 4 out of 10 (multiply by 10) 40 out of 100 so 40%	

6 Ways of doing question Type 2 - Find 37% of \$250

Equivalent Fractions $\frac{37}{100} \times 2.5 = \frac{92.50}{250}$	Using Fractions $\frac{37}{100} \times 250 = \frac{9250}{100} = \92.50	As a proportion $\frac{37}{100} = \frac{D}{250}$ cross-product $100D = 37 \times 250$ $100D = 9250$ (divided by 100) $x = \$92.50$																												
Using Decimals $0.37 \times \$250 = \92.50	By using 100% as a building block <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>%</th> <th>\$</th> </tr> </thead> <tbody> <tr> <td>100%</td> <td>\$250.00</td> </tr> <tr> <td>10%</td> <td>\$25.00</td> </tr> <tr> <td>20%</td> <td>\$50.00</td> </tr> <tr> <td>5%</td> <td>12.50</td> </tr> <tr> <td>1%</td> <td>\$2.50</td> </tr> <tr> <td>1%</td> <td>\$2.50</td> </tr> <tr> <td>Total: 37%</td> <td>\$92.50</td> </tr> </tbody> </table>	%	\$	100%	\$250.00	10%	\$25.00	20%	\$50.00	5%	12.50	1%	\$2.50	1%	\$2.50	Total: 37%	\$92.50	By 1st Principles using \$100 as a building block <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>\$</th> <th>37% of \$</th> </tr> </thead> <tbody> <tr> <td>\$100</td> <td>\$37.00</td> </tr> <tr> <td>\$100</td> <td>\$37.00</td> </tr> <tr> <td>\$50</td> <td>\$15.00</td> </tr> <tr> <td></td> <td>3.50</td> </tr> <tr> <td>\$250</td> <td>\$92.50</td> </tr> </tbody> </table>	\$	37% of \$	\$100	\$37.00	\$100	\$37.00	\$50	\$15.00		3.50	\$250	\$92.50
%	\$																													
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Class:

Level: F

Form: 1

Ranking Poor to Good	Question No.	Math behind the question	Solution or lesson strategies
1			
2			
3			
4			
5			
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7			
8			
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10			

If necessary, add another page.

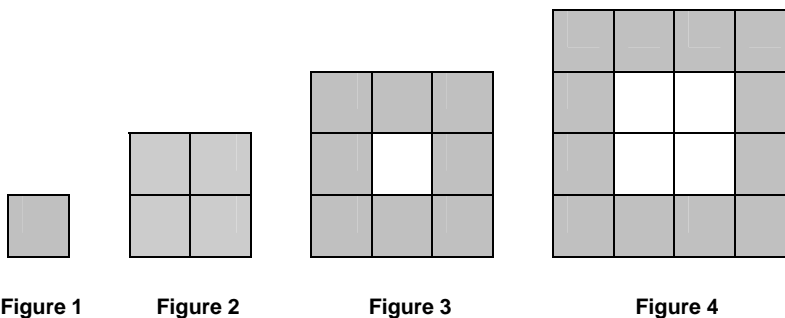
Sample Interpretation and Analysis of Mathematics Progress Indicator Results - Level F, Form 1

Ranking	Level F Form 1 December 2002		
Poor to Good	Question No. less than 40%	Math behind the question	Solution or lesson strategies
1	37	capacity - cubic feet and gallons	Have they done it?
2	14	radius vs diameter	Many students mis-read the question
3	48	<i>linear function</i>	<i>Test strategy: test answers</i>
4	43	sum of angles in a polygon	Draw and construction
5	38	combinations	Have they done it?
6	44 *	algebra or non-algebra approach	
7	16	units of measurement	Table of information
8	34	average in reverse	
9	9	best estimate	Decimal propers, model estimation strategies
10	39 *	scale on map	Map Activities and estimation
11	47	probability	Have they done it?
12	29	fraction and graph interpretation	
13	2	of means multiply the fractions	Practice word problems
14	13	supplementary angles, angle sum of triangle	Have they done it?
15	41	Pythagoras, how much farther?	Have they done it? Reading the question
16	22	Median and mode	"Data about Us"
17	40	Rates	Draw diagram
18	25	Percent after finding the change	A 3 step question
19	32 *	transformations	Have they done it?
20	45	<i>inequality</i>	<i>Test strategy: test answers</i>

Patterns, Function, Algebra – Review 8-2-20

Question 20, Level F, Form 2

Look at the pattern below.



If the pattern continues, how many shaded squares will there be in Figure 8?

F	24
G	28
H	36
J	56

The Trap

Counting the non-shaded squares.

Possible approaches

1. Draw the next diagrams
2. Count the squares and continue the pattern

Further Practice

“Post and Rail Fencing 2” Investigation

“Post and Rail Fencing 2” Recording Sheet *(for use with students that need help in organizing their notebooks)*

Toothpick Problem from NYS Companion to the Core Curriculum

Follow-up task

1. Write your own question like the one above
2. Explain what you are doing. (next to or under your working)

POST and RAIL FENCING 2

MATERIALS: Twenty (20) sticks.

You have been contracted by a Fencing Company to find a way to calculate the number of posts and rails for any size fence.

Complete the following investigation by the process of

READ, MAKE, DRAW, RECORD, ORGANISE, GRAPH, INTERPRET, PREDICT, FORMULATE, TEST, EXPLAIN

1. READ this page, and then write a statement of the problem in your own words.
2. MAKE each of these post and rail fences
DRAW the diagrams.
RECORD the number of posts and rails under each diagram



1 post



2 post, 2 rails

3. Repeat the MAKE, DRAW, RECORD process for 3, 4 and 5 posts.
4. ORGANISE the data into a tables of values.

Number of Posts	1	2	3	4	5	
Number of Rails						

5. GRAPH the table of values.
 - Put the number of posts on the horizontal axis
 - Put the number of rails on the vertical axis.
6. INTERPRET the change in values in the table and graph.
Write sentences to describe the change in values in the table.
Write sentences to describe the change in values in the graph.
7. PREDICT how many rails for 10 posts.
8. FORMULATE and TEST a rule for the number of rails for any number of posts.
9. EXPLAIN your rule and give an example on how to use your rule, for example if there were 100 posts.

POST and RAIL FENCING 2

RECORDING SHEET

MATERIALS: Twenty (20) sticks.

You have been contracted by a Fencing Company to find a way to calculate the number of posts and rails for any size fence.

Complete the following investigation by the process of

**READ, MAKE, DRAW, RECORD, ORGANISE, GRAPH,
INTERPRET, PREDICT, FORMULATE, TEST, EXPLAIN**

1. MAKE each of these post and rail fences
DRAW the diagrams.
RECORD the number of posts and rails under each diagram



2. Repeat the MAKE, DRAW, RECORD process of 4 and 5 posts.

3. ORGANISE the data into a tables of values.

Number of Posts	1	2	3	4	5					
Number of Rails										

4. GRAPH the table of values. (see separate page)
 - Put the number of posts on the horizontal axis
 - Put the number of rails on the vertical axis.

5. INTERPRET the change in values in the table and graph.

Write sentences to describe the change in values in the table.

Write sentences to describe the change in values in the graph.

6. PREDICT how many rails for 10 posts.

7. FORMULATE and TEST a rule for the number of rails for any number of posts.

8. EXPLAIN your rule and give an example on how to use your rule, for example if there were 100 posts.

Checklist of Teaching and Learning Resources for the Mathematics Classroom

Teacher's Name:

Room Number:

Date:

Student/Learning Resources

Teacher/Teaching Resources

Manipulatives

	Number Required	Number Allocated	Number Required		Number Required	Number Allocated	Number Required		Number Required	Number Allocated	Number Required
Student Desks				Teacher Desk				1/4" graph paper (# sheets)			
Student Chairs				Teacher Chair				1 cm graph paper (# sheets)			
Student Textbooks				Math Textbook Teacher Manual				1" dot paper			
Student Practice Books				Textbook Supplemental Materials				1 cm dot paper			
Computers				Textbook CD-ROM				1 Geodot Paper (# sheets)cm			
Testing Practice Materials				Grade Policy Chart				isometric dot paper			
Portfolio Folders				NYS Math Standards Poster				Base 10 Blocks (# sets)			
Calculators				OHT Calculator				Geoboards			
Rulers				Board Ruler				Centicubes (for volume)			
Protractors				Board Protractor				Inch cubes (for volume)			
Student Compasses				Board Compass				Inch square blocks (for area and geometry)			
Scissors				Overhead Projector				Snap cubes			
Tape				OH Screen				Measuring Tapes			
Glue				Timer				1 yard rulers			
Math-O-Mat				Student Assessment Information				Tangrams			
Student Notebooks								Construction Card (# sheets)			
Student Journals				Write-on OH Transparencies				Poster Display Card (# sheets)			
				Photocopy OH Transparencies				Dice – 6 sided			
								Dice – other sided			
								Balance Scales			
								Pattern Blocks (# sets)			
								Algebra Tiles (# sets)			

Record of Resources Allocated to Teachers

Teacher name:

Room:

Name of Book/Resource	ID Numbers	Distributed		Returned	
		Date	Signature of Teacher	Date	Signature of Supervisor

Distribution Process	Return Process
<ol style="list-style-type: none"> 1. Supervisor allocates resources 2. Teacher signs for resources 3. Supervisor copies sheet 4. Supervisor provides copy to Teacher 5. Teacher keeps copy 6. Supervisor files original 	<ol style="list-style-type: none"> 1. Teacher returns books 2. Supervisor signs to acknowledge return of books 3. Supervisor copies sheet 4. Supervisor provide copy to Teacher 5. Teacher keeps copy 6. Supervisor files original

Resource Allocation Record Sheet

Name of Resource:

Date	Resource increase/decrease	Total number owned

ID Numbers	Given to	Date Distributed	Date Returned	Other notes