When did I use math over the break?

`00:00 00`

Week 11, Lesson 1

1. Warm Up
2. AIMS vs ACT
3. ICA

AIMS vs ACT?
When did I use math over the break?

77

`00:00 00`

Warm Up:

1) Graph: $y=4x-2$ Linear $y=mx+b$
6.2

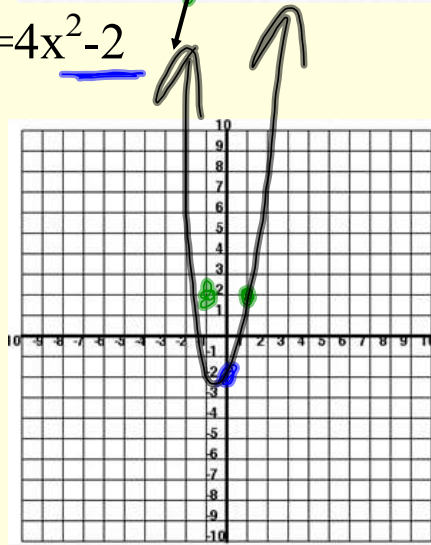2) Graph: $y=4x^2-2$ quadratic
6.3 U or ∩

3) Graph: $y=(4)^{x+2}-2$
Exponitial
6.4

1) Graph: $y=4x-2$
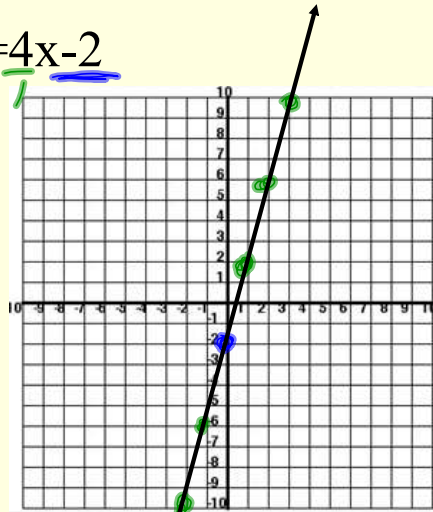
2) Graph: $y=4x^2-2$

$$4(1)^2-2$$

$$4(1)-2$$

$$4-2$$

$$2$$

3) Graph: $y=(4)^{x+2}-2$

$$(4)^{-2+2}-2$$

$$4^0-2$$

$$1-2$$
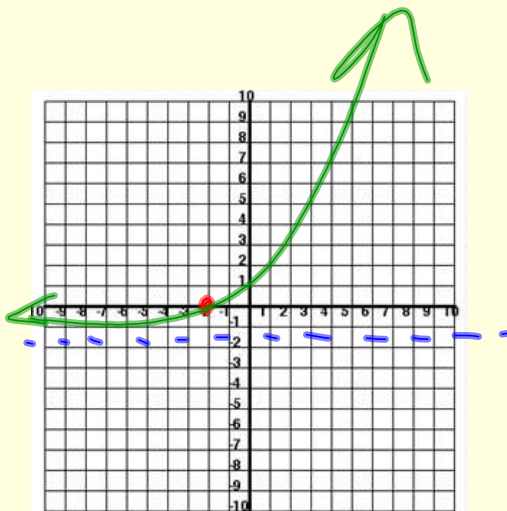
horizontal

$$-2$$

P of I

$$(-2,-1)$$

13 Week Test Study Guide

72

Grade Graph

My 4th Quarter Standards Graph

P E R C E N T	100 90 80 70 60 50 40 30 20 10							

Exceeds

Proficient

ACT Vocab | ACT Prep | 6.2, 6.3, 6.4 | 5.5a, 5.5 b | 5.2, 5.3, 5.4 | 1.5b | 1.9

13 Week Assesment

16 Week Assesment

Final Exam

73

Important Vocabulary

Know

Need to
Know

74

ACT

ACT

PREP

75

AIMS vs ACT

00:00 00
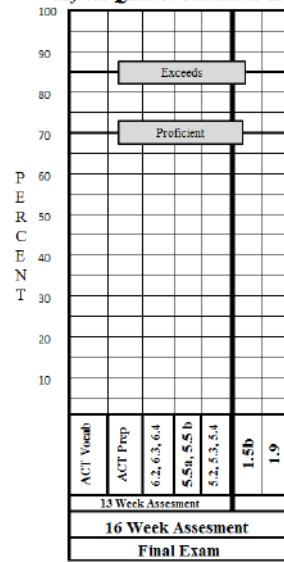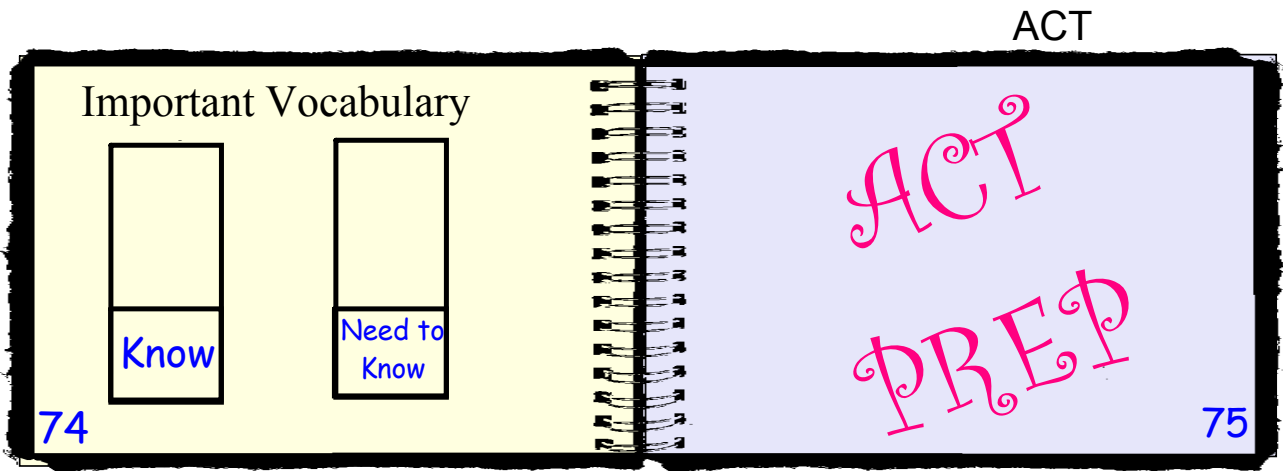
ACT math includes arithmetic, geometry, probability, and basic trigonometry problems

AIMS math includes Number and Operations, Data Analysis, Algebra, Geometry, and Logic

AIMS Break Down

Similarities:

Four content areas :
1) English
2) Math
3) Reading
4) Science Reasoning

Multiple Choice Test

Differences:

	AIMS	ACT
Reference Sheet	✔	✘
Timed	✘	✔
Calculators	✘	✔
Different Days	✔	✘
Must pass to Graduate	✔	✘
College Entrance Exam	✘	✔

Summary:

ICA:

Everyone is getting a practice ACT test.

It is 60 questions long just like the real test.

Do not do that Math

Read through it

Find words you are **not sure** what they mean and **underline** them

Find words we have talked about in class and Circle them

Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure

Right Side...

Write a summary that answers the essential question.

Left Side...   Quick write:

How comfortable are you with the
vocabulary used on the ACT test?
On a rating Scale of 1 to 10
1 being not at all
10 being Very

What are important strategies that will help you be successful on the ACT testing and any multiple choice testing?

Week 11, Lesson 2

1. Warm up
2. Vocabulary
3. Testing Strategies
4. ICA
5. Homework

Testing Strategies

What are important strategies that will help you be successful on the ACT testing and any multiple choice testing?

79

Warm up:

Quick Write:
What testing strategies have you used in the past?

Vocabulary:

Adjoining: Lying next to each other
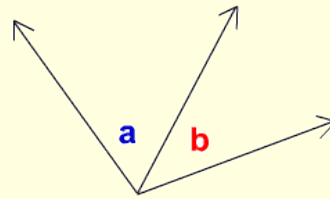
Arithmetic: The basic calculations we make in everyday life:
addition, subtraction, multiplication and division.

```
5.5 - 3.4 = 2.1
        15 / 3 = 5
                    2 + 15 = 17
3 × (4+2) = 18
                25% of 12 is 3
√9 = 3
        ¾ × 16 = 12
```

Consecutive Integers: Numbers which follow each other in
order, without gaps, from smallest to
largest.

13, 14, 15

Testing Strategies

Standard ACT PREP	

Did you know?

If you score a 16 or better in the math section it will satisfy the AIMS high school Math Graduation Requirements

On March 22, 2010, the State Board of Education approved the following subtest scores from the SAT and ACT for the purposes of satisfying the AIMS high school graduation requirements.

AIMS HS Content Area	Reciprocal SAT test scores	Reciprocal ACT test scores
Writing	420 or higher on Writing	16 or higher on Combined English/Writing
Reading	420 or higher on Critical Reading	16 or higher on Reading
Mathematics	420 or higher on Mathematics	16 or higher on Mathematics

What does a 16 mean?

Scale Score	Test 1 English	Test 2 Mathematics	Test 3 Reading	Test 4 Science	Scale Score
		Raw Scores			
36	75	59-60	40	40	36
35	73-74	57-58	39	39	35
34	71-72	55-56	38	38	34
33	70	54	—	37	33
32	69	53	37	—	32
31	68	52	36	36	31
30	67	50-51	35	35	30
29	66	49	34	34	29
28	64-65	47-48	33	33	28
27	62-63	45-46	32	31-32	27
26	60-61	43-44	31	30	26
25	58-59	41-42	30	28-29	25
24	56-57	38-40	29	26-27	24
23	53-55	36-37	27-28	24-25	23
22	51-52	34-35	26	23	22
21	48-50	33	25	21-22	21
20	45-47	31-32	23-24	19-20	20
19	42-44	29-30	22	17-18	19
18	40-41	27-28	20-21	16	18
17	38-39	24-26	19	14-15	17
16	35-37	19-23	18	13	16
15	33-34	15-18	16-17	12	15
14	30-32	12-14	14-15	11	14
13	29	10-11	13	10	13
12	27-28	8-9	11-12	9	12
11	25-26	6-7	9-10	8	11
10	23-24	5	8	7	10
9	20-22	4	7	6	9
8	17-19	—	6	5	8
7	14-16	3	5	4	7
6	11-13	—	4	3	6
5	9-10	2	3	—	5
4	6-8	—	—	2	4
3	5	1	2	1	3
2	3-4	—	1	—	2
1	0-2	0	0	0	1

Testing Strategies (con.)

Standard ACT PREP	**ACT Book Says**
	1) Pace yourself
	2) Use your Calculator WISELY!
	3) Solve the Problem
	4) Locate your solution among the Answers
	5) Make Sure you answer the question
	6) Make sure your answer is reasonable
	7) Check your work
	Multiple Choice
	1) Rely on answer choices
	2) Plug in the answer choices

Summary:

MS 2 Week 11

ICA:

Use the strategies we just learned about to solve the following problems.

You have 10 minutes for the ten problems.

Week 11 Lesson 1

10 Problems Practice in 10 Minutes

1. Which of the following numbers completes the sequence 3, 8, 14, 21, 29, ___?
   (A) 35
   (B) 36
   (C) 37
   (D) 38
   (E) 39

2. Beth got a job painting dorm rooms at her college. At top speed, she could paint 5 identical rooms during one 6-hour shift. How long did she take to paint each room?
   (F) 50 minutes
   (G) 1 hour and 10 minutes
   (H) 1 hour and 12 minutes
   (J) 1 hour and 15 minutes
   (K) 1 hour and 20 minutes

3. If $5x + 3 = 10x - 17$, what is the value of x?
   (A) 1
   (B) 2
   (C) 3
   (D) 4
   (E) 5

4. The number 4 is the smallest positive integer that has exactly three factors: 1, 2, and 4. If k is the next-highest integer that also has exactly three factors, what is the sum of the three factors of k?
   (F) 13
   (G) 14
   (H) 16
   (J) 18
   (K) 20

5. William earned $3,200 per month as a teacher for the ten months from September to June. Then he took a job as a barista at a local café, where he earned $2,000 per month during July and August. What was his average monthly pay for the 12 months?
   (A) $2,400
   (B) $2,500
   (C) $2,600
   (D) $2,800
   (E) $3,000

6. When you multiply a number by 4 and then subtract 7, the result is the same as if you first subtracted 7 from the same number and then multiplied by 11. What is the number?
   (F) 10
   (G) 13
   (H) 19
   (J) 23
   (K) 31

7. Which of the following inequalities is represented by the following number line?

   $-7 \ -6 \ -5 \ -4 \ -3 \ -2 \ -1 \ 0 \ 1 \ 2 \ 3 \ 4 \ 5 \ 6 \ 7$

   (A) $-5 < x < 5$
   (B) $-5 \le x < 5$
   (C) $-5 < x \le 5$
   (D) $|x| < 5$
   (E) $5 \le |x|$

8. In the following figure, the two triangles are similar. The lengths of their sides are shown. What is the value of y in terms of x?

   (F) $x + 1$
   (G) $x + 2$
   (H) $x + 3$
   (J) $x + 4$
   (K) $x + 5$

9. Which of the following is equal to $(n - 3)^2$ if $n = 11$?
   (A) $(n + 6)(n - 6)$
   (B) $(n + 5)(n - 7)$
   (C) $(n + 4)(n - 8)$
   (D) $(n + 3)(n - 9)$
   (E) $(n + 2)(n - 10)$

10. A square field has an area of 22,500 square feet. To the nearest foot, what is the diagonal distance across the field?
    (F) 150 feet
    (G) 178 feet
    (H) 191 feet
    (J) 212 feet
    (K) 260 feet

Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure

Right Side...

Write a summary that answers the essential question.

Left Side...

Quick write:
How are you feeling about the strategies we just learned about? Do you think you will use them?

How do you know if it is a good use of time to use your calculator or not?

Week 11, Lesson 3

1. Warm up
2. To use a Calculator?
3. ICA
4. Homework

To use a Calculator?
How do you know if it is a good use of time to use your calculator or not?

81

Warm up:

1) What is the volume of the cone with a radius of 5 inches and a height of 8 inches?

2) What is the volume of the shown prism? The area of the base is 84 inches.

7 in

3) You and a friend are debating about who would win a race. He says he can run 306 centimeters in ten minuets. You say you can run 4 meters every ten minuets. Who is faster? How do you know?

1) What is the volume of the cone with a radius of 5 inches and a height of 8 inches?

$$V = \frac{1}{3}\pi r^2 h$$

8inches

5inches

$$\frac{1}{3}(5)^2(8)\pi$$

$$66.7\pi \text{ inches}^3$$

2) What is the volume of the shown prism? The area of the base is 84 inches.

7 in

$$V = Bh$$

$$84(7) = 588 \text{ inches}^3$$

3) You and a friend are debating about who would win a race. He says he can run 306 centimeters in ten minuets. You say you can run 4 meters every ten minuets. Who is faster? How do you know?

Friend   100 Centimeters = 1 meter

306 Centimeters

me

400 Centimeters

Vocabulary:

Constraint: limitation or restraint

Coordinate: plane: The plane containing the "x" axis and "y" axis
unit: a measurement of one point to another
point: a set of values that show an exact position.

Plane   (2,5)
----- Point
---- Units
4 Units
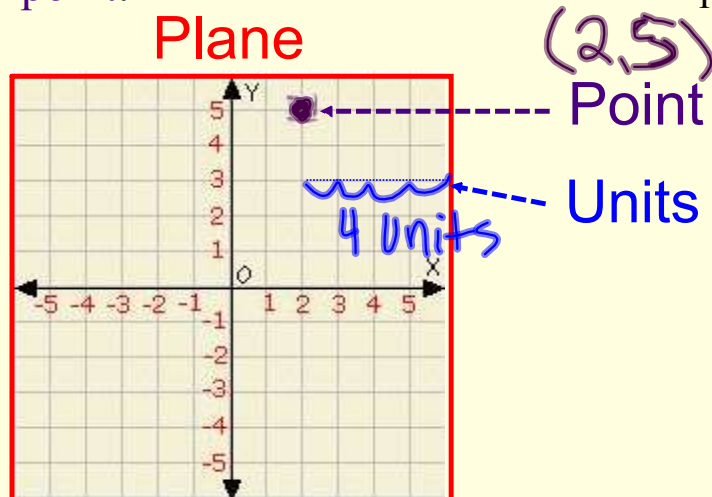
Determinant: The determinant of a matrix is a special number that can be calculated from a square matrix.

$$A = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$$

$$ad - bc$$

$$|A| = ad - bc$$

Dimensions: A measurement of length in one direction.

height
length   width
width
length
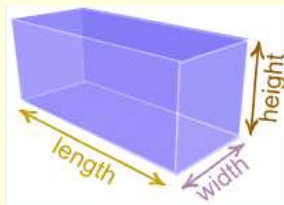
Infinite: Without an end. Not finite.
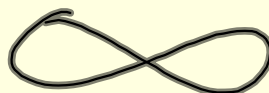
To use a Calculator?

Standard ACT Prep	**or not to use a Calculator? That is the question!**

To Use?

Simple Calculations ❌

Time consuming calculations ✔

Square roots ✔

Large Number Calculations ✔

When you are not sure ❌

What Calculator functions are NEED to knows?

Negative numbers (−)

Parentheses ( )

Pi SHIFT EXP

Square roots SHIFT x^2

Trig functions sin cos tan

MENU

Input-output tables   Solving equations   Graphs

TABLE   EQUA   GRAPH

5   8   3

Summary:

ICA:

Use the strategies we just learned about to solve the following problems.

You have 16 minutes for the 16 problems.

Week 11 Lesson 3

16 Questions in 16 minutes

11. What is the slope of a line on a standard xy-plane that passes through the point (1, 5) and (4, -3)?
    (A) -1
    (B) 2
    (C) -2
    (D) $\frac{1}{2}$
    (E) $-\frac{1}{2}$

12. Andrea wants to fill in two sections of her backyard with sod that must be purchased in 2×2-foot squares. If the two sections measure 30 x 40 feet and 60 x 80 feet, how many squares of sod does she need to buy?
    (F) 1,000
    (G) 1,250
    (H) 1,500
    (J) 1,600
    (K) 2,000

13. In the following triangle, what is the value of sec θ?
    (A) $\sqrt{5}$
    (B) $2\sqrt{5}$
    (C) $\frac{\sqrt{5}}{2}$
    (D) $\frac{\sqrt{5}}{5}$
    (E) $\frac{2\sqrt{5}}{5}$

14. If $pq - 3r = 2$, what is the value of q in terms of p and r?
    (F) $2p - 3pr$
    (G) $2p - 3pr$
    (H) $\frac{3r + 2}{p}$
    (J) $\frac{3r - 2}{p}$
    (K) $\frac{2 - 3r}{p}$

15. If $f(x) = 4x^2 - 5x - 5$ and $g(x) = 2^x - 4$, what is the value of $\frac{g(6)}{f(-5)}$?
    (A) 1
    (B) 2
    (C) $\frac{1}{2}$
    (D) $\frac{5}{2}$
    (E) $\frac{3}{4}$

16. If you multiply two integers together and then add 4, the result is 40. Which of the following could NOT be the sum of the two numbers?
    (F) 12
    (G) 13
    (H) 15
    (J) 18
    (K) 20

17. In the following figure, the two horizontal lines are parallel. Which of the following does NOT equal 180°?
    (A) $(p - t)°$
    (B) $(u - t)°$
    (C) $(q - t)°$
    (D) $(r + s - t)°$
    (E) $(t + u)°$

18. If a and b are the two values of z that satisfy the equation $z^2 - 6z + 8 = 0$, with $a > b$, what is the value of $a - b$?
    (F) 2
    (G) 4
    (H) 6
    (J) 8
    (K) 10

Go on to next page

19. A rectangular box has two sides whose lengths are 3 centimeters and 9 centimeters and a volume of 135 cm³. What is the area of its largest side?
    (A) 27 cm²
    (B) 36 cm²
    (C) 39 cm²
    (D) 45 cm²
    (E) 48 cm²

20. If you graph the lines $3x - 2y = -2$ and $5x - y = 14$ on a standard xy-graph, at which point will the lines intersect?
    (F) (1, -7)
    (G) (2, -4)
    (H) (-5, 4)
    (J) (-9, 3)
    (K) (11, 2)

21. Which of the following equals $12x^5y^3z^4 - 30xy^2 + 24x^3y^2z^2$?
    (A) $6xy^2(2yz^3 - 5 + 4xy^3)$
    (B) $6xy^2(2xyz^2 - 5 + 4xy^2z)$
    (C) $6xy^2z(2xyz^3 - 5 - 4xy^3)$
    (D) $12x^3y^2(x^2z^4 - 5 - 2y^2z)$
    (E) $12x^5y^2z(x^3y^2z^3 - 5z + 2y^3)$

22. In the following figure, ABCD is a square and is a diameter of the circle centered at O. If the area of the square is 100, what is the area of the shaded region?
    (F) 25π
    (G) 50π
    (H) 100π
    (J) $\frac{5\pi}{2}$
    (K) $\frac{25\pi}{2}$

23. Anderson has a phone plan that charges a monthly rate of $50 for the first 1,000 minutes plus $0.25 for each additional minute. Which of the following functions models Anderson's plan for all $m > 1,000$, with m as the number of minutes per month and $f(m)$ as the monthly charge?
    (A) $f(m) = 0.25m$
    (B) $f(m) = 0.25m - 50$
    (C) $f(m) = 0.25m - 200$
    (D) $f(m) = 0.25m - 950$
    (E) $f(m) = 0.25m - 1,000$

24. What is the x-intercept of a line that passes through the point (3, 4) and has a slope of 2?
    (F) -2
    (G) -1
    (H) 0
    (J) 1
    (K) 2

For questions 25 and 26 refer to the following figure. It shows the percentage of votes tallied by an online book club regarding the next author the club should focus on.

25. Which of the following pairs of authors received exactly 30 percent of the votes altogether?
    (A) Cormac McCarthy and Toni Morrison
    (B) Gabriel Garcia Márquez and Toni Morrison
    (C) Toni Morrison and Annie Proulx
    (D) Toni Morrison and John Steinbeck
    (E) Annie Proulx and John Steinbeck

26. If exactly 200 people voted, how many votes did Cormac McCarthy receive?
    (F) 15
    (G) 30
    (H) 33
    (J) 39
    (K) 45

Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure

Right Side...

Write a summary that answers the essential question.

Left Side...

Quick write:
What questions do you still have about the ACT?

Am I ready for the ACT test on Wednesday, April 23rd?

00:00 00

Week 11, Lesson 4

1. Warm-up
2. 1/2 Practice Test
3. Homework

1/2 Practice Test

Am I ready for the ACT test on Wednesday, April 23rd?

83

Warm-up: Answer the following questions.

ACT Vocabulary

00:06 00

Vocabulary:

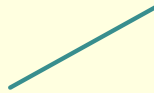Least Common Multiple: The smallest number that is a multiple of two or more numbers.
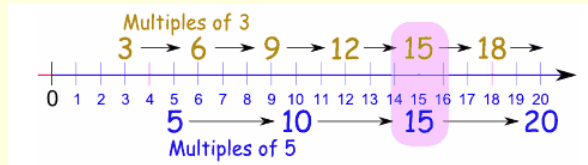
Lines: Perpendicular: Lines that are at right angles (90°) to each other.
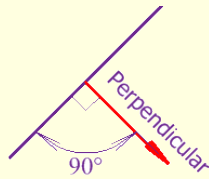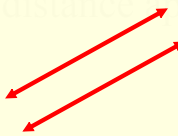

*Opposite reciprocal slopes

$$3, \frac{-1}{3}$$

Coinciding: Two lines or shapes that lie exactly on top of each other.
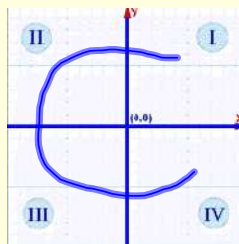
*Same slopes Same y-intercepts

Parallel: Two lines on a plane that never meet. They are always the same distance apart.

*Same slopes Different y-intercepts

Quadrants: Any of the 4 equal areas made by dividing a plane by an x and y axis.
*They are usually numbered I, II, III and IV

Verbal Expression: A math equation explained in words.

$$x^3 + 10 = 9x$$

Finite: Has an end. Could be measured, or given a value.

1/2 Practice Test

Standard
ACT Prep

Your task:
30 questions in 30 minutes

ICA:

Reflect:
1) What went well?
2) What did not go as well?
3) What would you like more help on?
4) Did you use any of the strategies we talked about?
5) How often did you use your calculator?