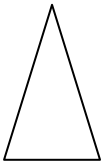
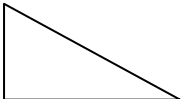
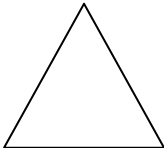
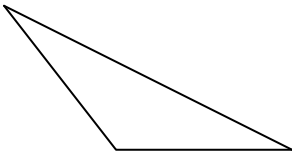


Name _____ Date _____

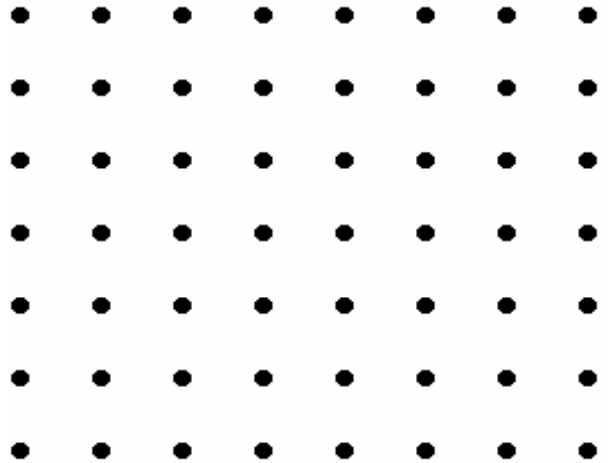
(17A)

1. Which shape is an equilateral triangle?

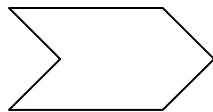
- 
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(17B)

3. On the grid, draw a square. Then explain why the shape you drew is a square.



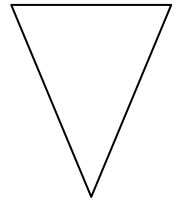
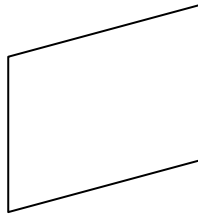
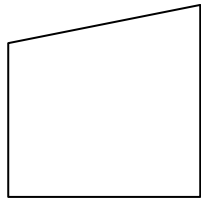
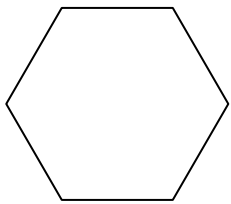
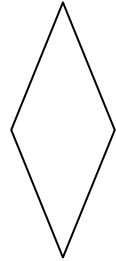
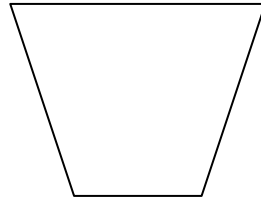
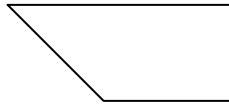
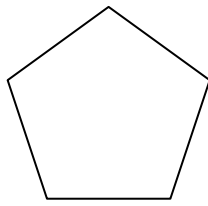
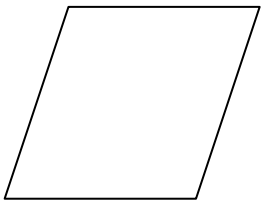
(15A)



2. How many sides does the shape have?

- 3
- 4
- 5
- 6

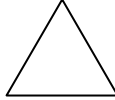
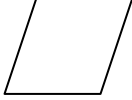
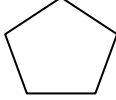
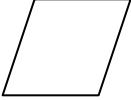
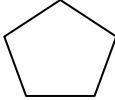

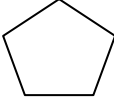

(17B)




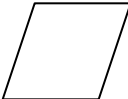
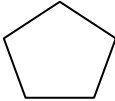

4. Put an X inside the shapes that are trapezoids. Then explain why the shapes you circled are trapezoids.

(22A)


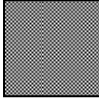

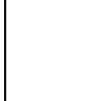
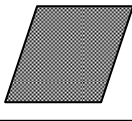
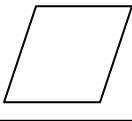
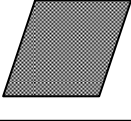
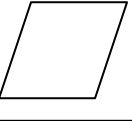

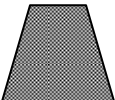
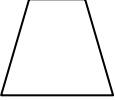
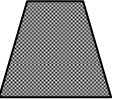
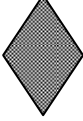
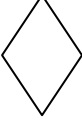
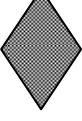
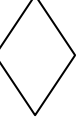
The shapes in the chart follow a pattern


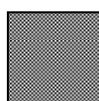
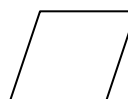
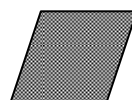
5. Which shape is missing?

- 
- 
- 
- 

(22A)

6. What shape is missing in the table?

- 
- 
- 
- 



(23A)

The same blocks have the same weight. Different blocks have different weights.

Two Pan Balances



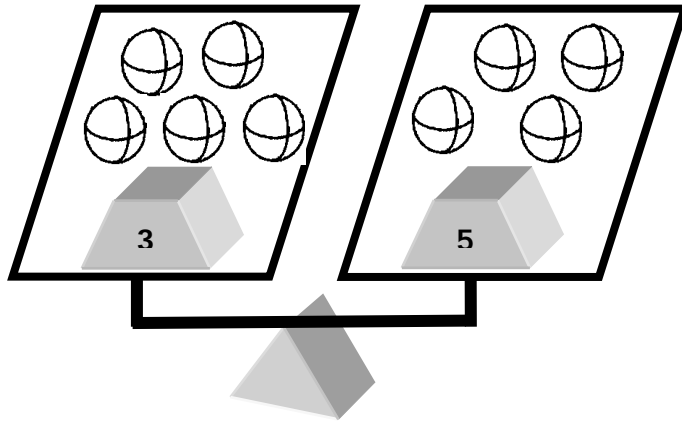
7. Which block weighs more,


 or  ? _____

How did you determine your answer? _____

(23A)

The sides are balanced (equal in weight).
The same objects have the same weight unless the weight is written on the object.

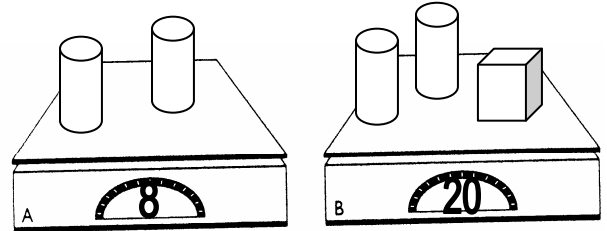



8. How much does one  weigh?

- 1
- 2
- 3
- 4

(23A)

The scales show how much the blocks weigh.

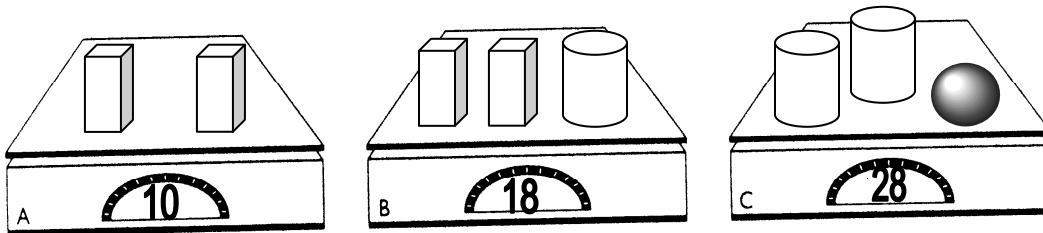



9. How much does the  weigh?

- 10
- 12
- 14
- 16

(23A)

The scales show how much the blocks weigh.



10. How much does the  weigh?

- 5
- 8
- 12
- 20

(23A)

11. Which fact belongs in the same family of facts as

$$25 - \square = 9$$

- $\square - 25 = 9$
- $\square + 9 = 25$
- $9 - \square = 25$
- $25 + \square = 9$

(23A)

13. Which fact is part of the same family of facts as

$$\square + 34 = 62$$

- $\square = 62 + 34$
- $34 - \square = 62$
- $\square + 34 = 62$
- $34 - 62 = \square$

(23A)

12. Which fact is part of the same family of facts as

$$18 - \square = 11$$

- $18 + 11 = \square$
- $\square - 11 = 18$
- $11 - \square = 18$
- $11 + \square = 18$

(23A)

14. Which fact belongs in the same family of facts as

$$46 - 19 = \square$$

- $19 + \square = 46$
- $19 - \square = 46$
- $46 + 19 = \square$
- $\square - 46 = 18$

Topic 5: Investigating Shapes and Angles

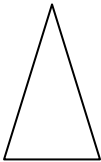
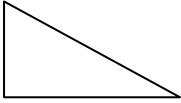
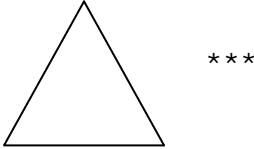
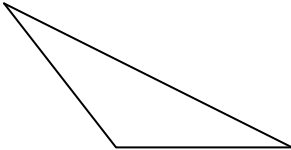
SOLUTIONS

Aug. 29, 2005

- ◆ **17A: Identify 2-D geometric shapes, including number of sides and angles**
- ◆ **17B: Draw, identify, and describe 2-D shapes**
- ◆ **22A: Complete matrixes with shapes**
- ◆ **23A: Algebra – Balance an equation** Not in GWM
- ◆ **23A: Algebra – Fact Family Problems** (addition/subtraction) – not in GWM

(17A)

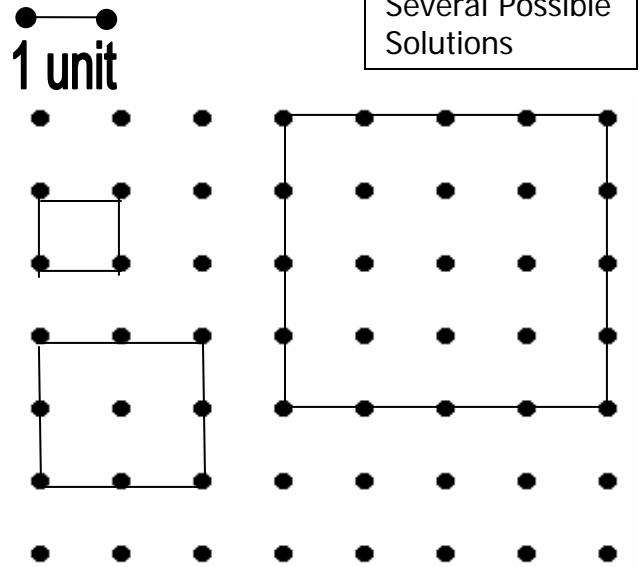
1. Which shape is an equilateral triangle?

- 
- 
- 
- 

(17B)

3. On the grid, draw a square. Then explain why the shape you drew is a square.

Several Possible Solutions



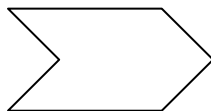
Written Response must include the necessary characteristics of a square:

- ◆ 4 sides
- ◆ polygon or closed shape or quadrilateral or parallelogram
- ◆ sides equal in length or congruent
- ◆ 4 right angles (Otherwise, the shape could be a rhombus.)

3 Possible Examples:

- ◆ A square is a quadrilateral with 4 equal sides and 4 equal angles
- ◆ A square is a 4-sided polygon with all sides equal and two pairs of parallel lines
- ◆ A square is a parallelogram with four congruent sides and four right angles

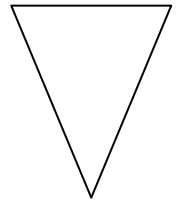
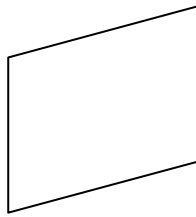
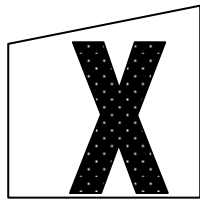
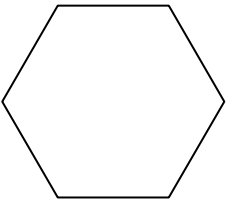
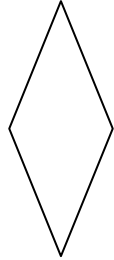
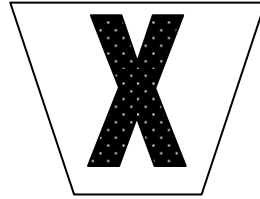
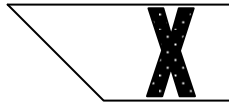
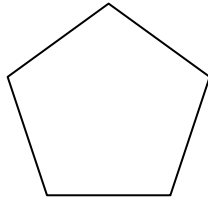
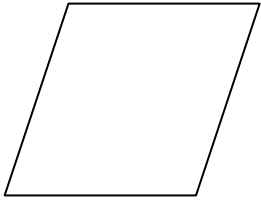
(15A)



2. How many sides does the shape have?

- 3
- 4
- 5
- 6 ***

(17B)



4. Put an X inside the shapes that are trapezoids. Then explain why the shapes you circled are trapezoids.

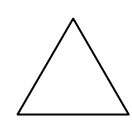
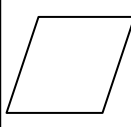
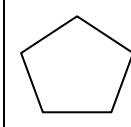
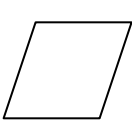
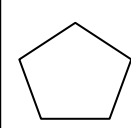

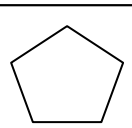
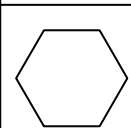
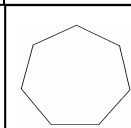
The following characteristics must be mentioned in the explanation:

- ◆ 4 sides or quadrilateral
- ◆ closed sides or polygon
- ◆ 2 sides parallel or 1 pair of sides parallel

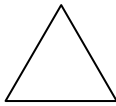
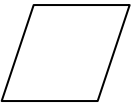
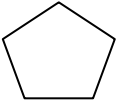
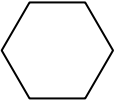
Possible Explanation: A trapezoid is a quadrilateral with exactly two parallel sides

(22A)

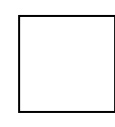
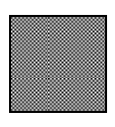
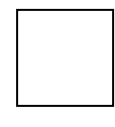

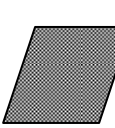
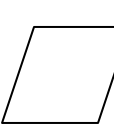
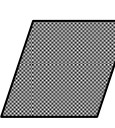
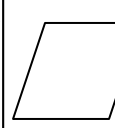
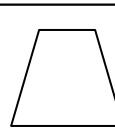
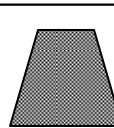
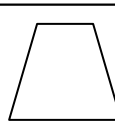
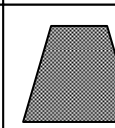
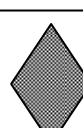

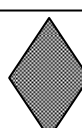
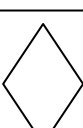
The shapes in the chart follow a pattern


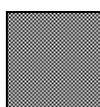
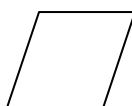
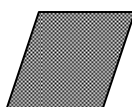
5. Which shape is missing?

- 
- 
- 
-  ***

(22A)

6. What shape is missing in the table?

- 
-  ***
- 
- 

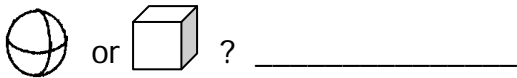
(23A)

The same blocks have the same weight. Different blocks have different weights.

Two Pan Balances



. Which block weighs more,



How did you determine your answer?

Possible Explanation: On Scale B, remove one sphere from each side. That leaves 2 spheres equaling one cube; therefore, one cube = 2 spheres OR one sphere is half the weight of a cube.

Please note: On the Grade 4 CMT, Objective 23A is only multiple choice.

This seemed like a good practice for Obj. 23A anyway.

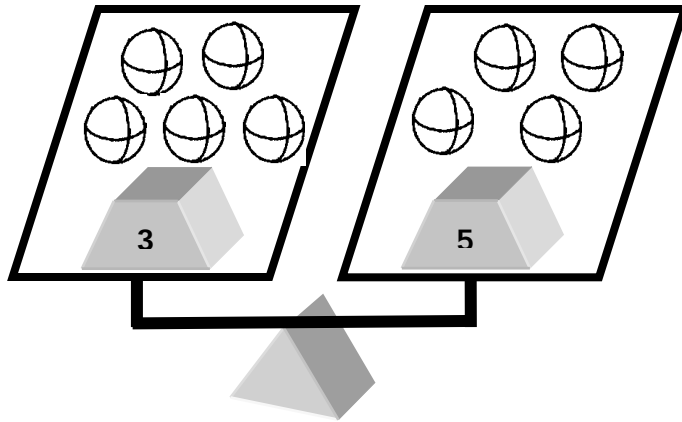
1st Side: $(3 \times 5 \text{ spheres}) + 3$ (the weight) = 18


2nd Side $(3 \times 4 \text{ spheres}) + 5$ (the weight) = 18

Guess and Check strategy might be good place to start

(23A)

The sides are balanced (equal in weight).
The same objects have the same weight unless the weight is written on the object.

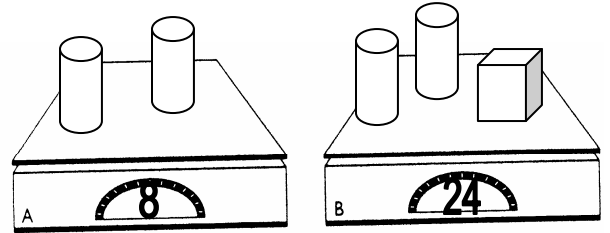



8. How much does one  weigh?

- 1
- 2
- 3 ***
- 4

(23A)

The scales show how much the blocks weigh.

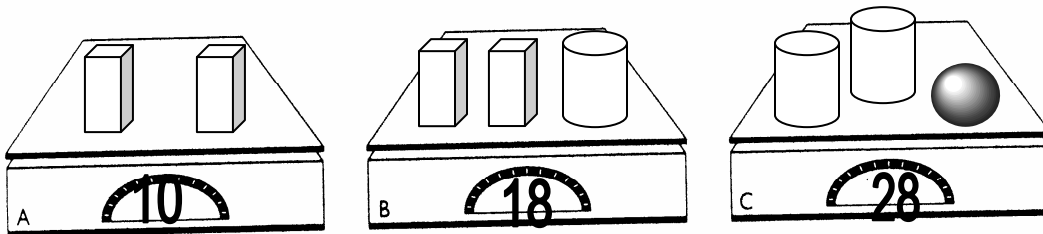



9. How much does the  weigh?

- 10
- 12
- 14
- 16 ***

(23A)

The scales show how much the blocks weigh.



10. How much does the  weigh?

- 5
- 8
- 12 ***
- 20

(23A)

11. Which fact belongs in the same family of facts as

$$25 - \square = 9$$

- $\square - 25 = 9$
- $\square + 9 = 25$ ***
- $9 - \square = 25$
- $25 + \square = 9$

(23A)

13. Which fact is part of the same family of facts as

$$\square + 34 = 62$$

- $\square = 62 + 34$
- $34 - \square = 62$
- $\square + 34 = 62$ ***
- $34 - 62 = \square$

(23A)

12. Which fact is part of the same family of facts as

$$18 - \square = 11$$

- $18 + 11 = \square$
- $\square - 11 = 18$
- $11 - \square = 18$
- $11 + \square = 18$ ***

(23A)

14. Which fact belongs in the same family of facts as

$$46 - 19 = \square$$

- $19 + \square = 46$ ***
- $19 - \square = 46$
- $46 + 19 = \square$
- $\square - 46 = 18$