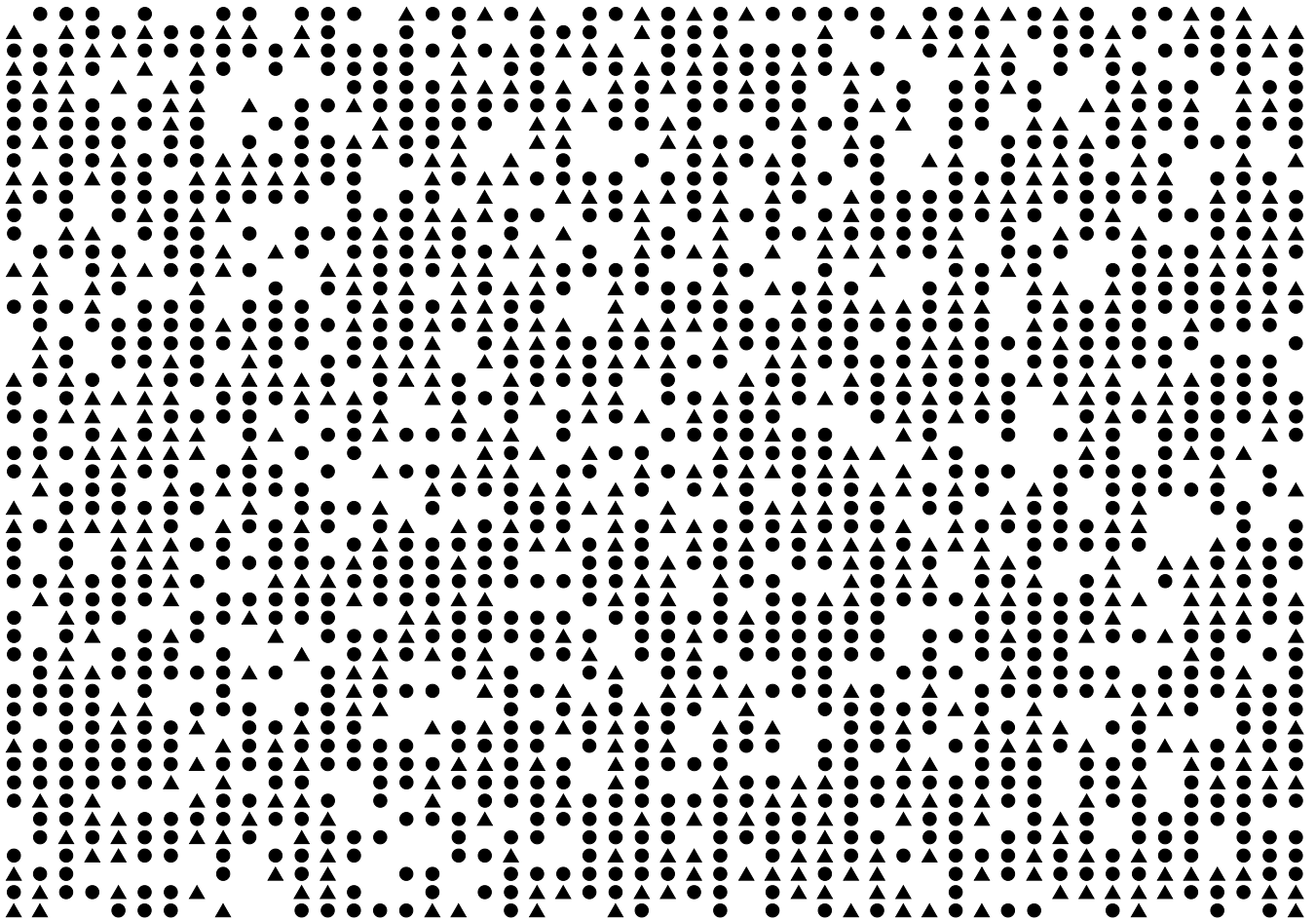


COUNTING TREES



This diagram shows some trees in a tree farm.

The circles ● show old trees and the triangles ▲ show young trees.

Tom wants to know how many trees there are of each type, but says it would take too long counting them all, one-by-one.

1. What method could he use to estimate the number of trees of each type?
Explain your method fully.
2. On your worksheet, use your method to estimate the number of:
 - (a) Old trees
 - (b) Young trees

	Counting Trees	Points	Section points
1.	<p>Explains that a small representative section could be selected. Then the number of old trees in that section could be counted The number of young trees in that section could be counted. These numbers could be used to make an estimate for the whole area. <i>Partial credit</i> For a partially correct explanation.</p>	<p>1 1 1 1 (2)</p>	4
2.	<p>Accept different organised sectioning methods. For example: The total area is 17.5×12 sq cm For example if we select an area $2\text{cm} \times 2\text{cm}$. Counting the number of old trees, we get 28 Counting the number of young trees, we get 11.</p> <p>An estimate of the number of old trees is $28 \times 17,5 \times 12 \div 4 = 1470$ approximately 1500.</p> <p>Accept values in the range 1200 to 1600</p> <p>An estimate of the number of young trees is $11 \times 17,5 \times 12 \div 4 = 577$ approximately 600.</p> <p>Accept values in the range 500 to 700</p>	<p>1 1 1 1 1 1</p>	6
	Total		10

Mathematics Assessment Project
BALANCED ASSESSMENT
Summative Assessment Tasks for Middle School
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Missing Number – Examples

Pocket Money

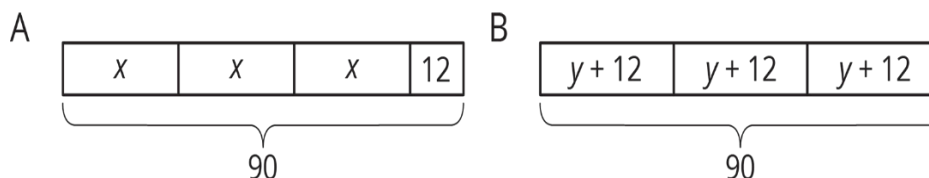
Marcos has \$17 altogether. He has \$ in his hand and the rest of the money in his pocket. How much money does he have in his pocket?

Cell Phone Deal

A phone originally sells for \$. It is now on sale for $\frac{1}{5}$ off the original price. April has a coupon for an extra 10% off the sale price. To the nearest dollar, how much less than the original price will April pay for the phone?

from Ready Math Grade 7 Lesson 16

Matching Models to Problems



Story 1: Lin had 90 flyers to hang up around the school. She gave 12 flyers to each of three volunteers. Then she took the remaining flyers and divided them up equally between the three volunteers.

Story 2: Lin had 90 flyers to hang up around the school. After giving the same number of flyers to each of three volunteers, she had 12 left to hang up by herself.

1. Which diagram goes with which story? Be prepared to explain your reasoning.

Open Up Resources (OUR) Grade 7 Unit 6 Lesson 6 Activity 3

Match the word problem with the correct expressions at the bottom.

1. Write an expression to show a number increased by **11**.
2. Write an expression to show a number decreased by **11**.
3. Write an expression to show **y** less than **3.5**.
4. Write an expression to show the sum of **x** and **y** reduced by **11**.
5. Write an expression to show **5** less than **y**, plus **x**.

$(x + y) - 11$	$y - 11$	$5 - y + x$	$3.5 - y$
$11 - (x + y)$	$y + 11$	$y - 5 + x$	$y - 3.5$

Adapted from EngageNY/Eureka Math Grade 6 Module 4 Lesson 9 (2016)

Matching Problems to an Expression

- 4** Which situation could be represented by the following expression? Circle all that apply.

$$48 + 2x$$

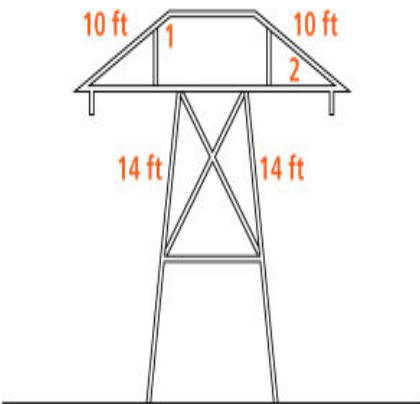
- A** Sara's phone contract costs her \$48 per month, but she pays an additional \$2 for every minute she goes over her allotted minutes.
- B** A fast food restaurant expects to use 48 eggs per day plus an additional 2 eggs for every customer coming in for breakfast.
- C** A florist began the day with 48 roses and sold approximately 2 roses per hour.
- D** Visitors to an amusement park pay an entrance fee of \$48 plus \$2 for each ticket purchased for the rides.

Ready Classroom Grade 6 Lesson 19 Practice p. 201 (2020)

Could This Be the Answer?

All horizontal beams of the high-voltage transmission tower are parallel to the ground. The top section is an isosceles trapezoid. The center section is an isosceles trapezoid.

If the measure of angle 1 = 128° , what is the measure of angle 2?



Could 120° be the answer? Why or why not?

Could 10° be the answer? Why or why not?

Could 40° be the answer? Why or why not?

Adapted from enVision Math Geometry Grade 6 Topic 6 Lesson 2 (2019)

Differentiate (Kady Dupre) – Different Numbers (with Three Reads and Missing Numbers)

Board the Roller Coaster

Jackson needs to be inches taller in order to ride the roller coaster. Since he can't wait, he puts on a pair of boots that adds inches to his height and slips an insole inside the boot that adds half as much as the boot does to his height. Will this make Jackson appear tall enough to ride the roller coaster?

Adapted from EngageNY/Eureka Math Grade 5 Module 3 (2016)

Best Deal

One store is having a 50% off sale. Another store has a 40% discount, with an additional 15% off of the sale price. Which sale should you take advantage of if you want the best reduction on a sweater that costs \$68.79?

Commit to ONE of the following without actually solving:

- A. The first store will give me the best price on the sweater.
- B. The second store will give me the best price on the sweater.
- C. It doesn't matter. The cost of the sweater will be the same in both stores.

For the “Best Deal” Problem - Turn and Talk with Sentence

Partner share. Complete the following:

- “What I first noticed about the problem was ____.”
- “I believe my answer makes sense because ____.”

True False & Multiple Choice

3 Caroline charges \$15 per hour babysitting. Let h represent the number of hours she babysits and E represent how much she earns. Choose *True* or *False* for each statement.

- a. $h + 15 = E$ is the equation that represents how much Caroline earns after h hours. True False
- b. If Caroline babysits for 5 hours, she earns \$20. True False
- c. $15h = E$ is the equation that represents how much Caroline earns after h hours. True False
- d. If Caroline earned \$52.50, then she babysat for $3\frac{1}{2}$ hours. True False
- e. $75f$ represents how much Caroline makes after f days babysitting 5 hours a day. True False

Ready Classroom Grade 6 Lesson 19 Practice p. 200 (2020)