

Lesson 10 Practice Problems

Problem 1

There is a closed carton of eggs in Mai's refrigerator. The carton contains e eggs and it can hold 12 eggs.

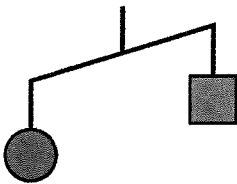
- What does the inequality $e < 12$ mean in this context?
- What does the inequality $e > 0$ mean in this context?
- What are some possible values of e that will make both $e < 12$ and $e > 0$ true?

Possible Solutions

- There are *fewer* than 12 eggs in the carton; the carton is not full.
- There are *more* than 0 eggs in the carton; the carton is not empty.
- There could be as few as 1 egg or as many as 11 eggs in the carton: any whole number of eggs from 1 up to 11.

Problem 2

Here is a diagram of an unbalanced hanger.



- Write an inequality to represent the relationship of the weights. Use s to represent the weight of the square in grams and c to represent the weight of the circle in grams.
- One red circle weighs 12 grams. Write an inequality to represent the weight of one blue square.
- Could 0 be a value of s ? Explain your reasoning.

Possible Solutions

- $s < c$
- $s < 12$
- No, 0 could not be a value of s because the square represents an object. It must have some weight, even if it is very small.

Lesson 10 Practice Problems

Problem 3

Tyler has more than \$10. Elena has more money than Tyler. Mai has more money than Elena. Let t be the amount of money that Tyler has, let e be the amount of money that Elena has, and let m be the amount of money that Mai has. Select **all** statements that are true:

- A. $t < j$
- B. $m > 10$
- C. $e > 10$
- D. $t > 10$
- E. $e > m$
- F. $t < e$

Possible Solutions

A, B, C, F

Problem 4

From Grade 6, Unit 7, Lesson 8

- a. Jada is taller than Diego. Diego is 54 inches tall (4 feet, 6 inches). Write an inequality that compares Jada's height in inches, j , to Diego's height.
- b. Jada is shorter than Elena. Elena is 5 feet tall. Write an inequality that compares Jada's height in inches, j , to Elena's height.

Possible Solutions

- a. $j > 54$
- b. $j < 60$

Problem 5

From Grade 6, Unit 7, Lesson 3

Which is greater, $\frac{-9}{20}$ or -0.5 ? Explain how you know. If you get stuck, consider plotting the numbers on a number line.

Possible Solutions

$\frac{-9}{20}$ is larger. Explanations vary. Sample explanation: $\frac{-9}{20} = -0.45$, and this is to the right of -0.5 on the number line. So, $\frac{-9}{20}$ is larger.

Problem 6

From Grade 6, Unit 6, Lesson 13

Select **all** the expressions that are equivalent to $\left(\frac{1}{2}\right)^3$.

- A. $\frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2}$
- B. $\frac{1}{2^3}$
- C. $\left(\frac{1}{3}\right)^2$
- D. $\frac{1}{6}$
- E. $\frac{1}{8}$

Possible Solutions

A, B, E

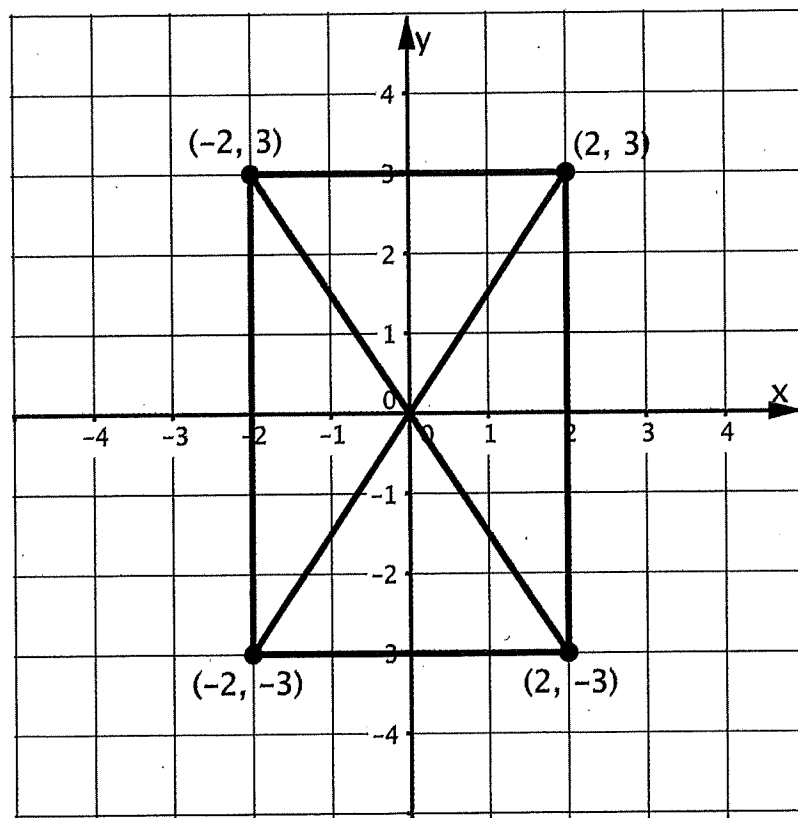
Lesson 11 Practice Problems

Problem 1

- Graph these points in a coordinate plane: $(-2, 3)$, $(2, 3)$, $(-2, -3)$, $(2, -3)$.
- Connect all of the points. Describe the figure.

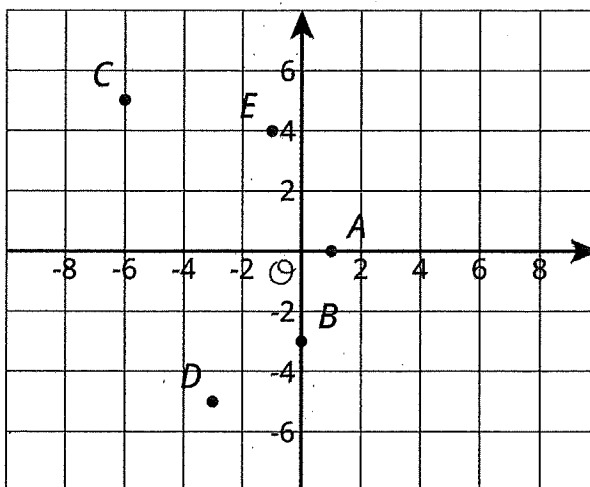
Possible Solutions

- The points $A = (-2, 3)$, $B = (2, 3)$, $C = (-2, -3)$, $D = (2, -3)$ are shown on a coordinate plane with segments between them.
- Graph



Problem 2

Write the coordinates of each point.

**Possible Solutions**

$A = (1, 0)$, $B = (0, -3)$, $C = (-6, 5)$, $D = (-3, -5)$, $E = (-1, 4)$

Problem 3

These three points form a horizontal line: $(-3.5, 4)$, $(0, 4)$, and $(6.2, 4)$. Name two additional points that fall on this line.

Possible Solutions

Answers vary. Any answer that has a y -coordinate of 4 is on the line.

Problem 4

From Grade 6, Unit 7, Lesson 2

One night, it is 24°C warmer in Tucson than it was in Minneapolis. If the temperatures in Tucson and Minneapolis are opposites, what is the temperature in Tucson?

- A. -24°C
- B. -12°C
- C. 12°C
- D. 24°C

Lesson 11 Practice Problems

Possible Solutions

C

Problem 5

From Grade 6, Unit 6, Lesson 16

Noah is helping his band sell boxes of chocolate to fund a field trip. Each box contains 20 bars and each bar sells for \$1.50.

- a. Complete the table for values of m .

boxes sold (b)	money collected (m)
1	
2	
3	
4	
5	
6	
7	
8	

- b. Write an equation for the amount of money, m , that will be collected if b boxes of chocolate bars are sold. Which is the independent variable and which is the dependent variable in your equation?
- c. Write an equation for the number of boxes, b , that were sold if m dollars were collected. Which is the independent variable and which is the dependent variable in your equation?

Possible Solutions

- a. Values for m : 30, 60, 90, 120, 150, 180, 210, 240
- b. $m = 30b$, b is independent, m is dependent
- c. $b = \frac{m}{30}$, m is independent, b is dependent

Problem 6

From Grade 6, Unit 2, Lesson 9

Lin ran 29 meters in 10 seconds. She ran at a constant speed.

- a. How far did Lin run every second?
- b. At this rate, how far can she run in 1 minute?

Possible Solutions

- a. 2.9 meters every second, because $29 \div 10 = 2.9$.
- b. 174 meters, because $(2.9) \cdot 60 = 174$.

