Activity Workbook for MTH 20

Fundamentals of Mathematics

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1 Introduction

Introduction

Worksheet: Class Information

Syllabus. Answer the following questions about the syllabus.

1. Write down the room number and meeting time for our class:

2. Write down the instructor's email address:

3. On what day and time will the Midterm take place?

4. On what day and time will the Final take place?

5. List three ways you can obtain help in this class.

6. Write down a day and time that you plan to work on your first homework assignment this week.

7. ALEKS. Write down the ALEKS code here.

8. Group Introductions. Write down the names of the people in your group. Make sure to check your spelling!

2 Integers

Whole Numbers

This worksheet references topics from Chapter 1.

Worksheet: Arithmetic Practice

Objectives

- Practice arithmetic in a handful of different forms
- Communicate your process and conclusion clearly and with appropriate units
- Identify confusing symbols or operations so you know what to review

Practice with Units. Perform the indicated operation and write your answer with the proper units.

1. $\$301 + \$452$

2. 835 miles $+ 406$ miles

3. 16075 yen $+ 5986$ yen

4. 768 cases $- 513$ cases

5. 5280 feet $- 355$ feet

6. $\$10,001 - \$979$

7. 8000 Chilean pesos $\times 10$

8. 862 euros $\cdot 15$

9. (7,456 km)(52)

10. 1500 inches $\div 3$

11. 496 ounces $\div 4$

12. 1914 yuan $\div 6$

13. $\$152 + \$399 + \$1{,}032$

14. 862 meters $\cdot 36 \cdot 2$

15. 2935 mm $\div 5$

16. 1,000 liters $- 628$ liters

Word Association. What operation is associated with each of the following words?

17. total

18. shared equally

19. double

20. loss

21. goes into

22. triple

23. reduced by

24. altogether

Problem Solving with Whole Numbers. For each problem, decide which mathematical operation(s) is appropriate to use and then find the answer. Show your thinking with words, symbols, and/or pictures. Write your answer in a complete sentence.

25. A movie theater makes a \$4 profit on each ticket sold. How many tickets must be sold to make a profit of \$2,500?

Mathematical operation(s):

Solution:

26. A savings account contained \$1,370. After a withdrawal of \$197 and a deposit of \$340, how much is now in the account?

Mathematical operation(s):

Solution:

27. How many tablets should a pharmacist give a person who needs to take 2 tablets 3 times a day for 14 days?

Mathematical operation(s):

Solution:

28. The cost of a student parking pass at PCC is \$50 per term if you buy it online. If a daily pass is \$5, after how many days does a term pass pay off?

Mathematical operation(s):

Solution:

Order of Operations with Whole Numbers. Use the order of operations to complete each problem. Perform one operation at a time and write the answer in its place. Show each step vertically with an equal sign on each line. There are two examples to show you the proper form:

Example A:

$$\begin{aligned} 2 \cdot 3 + 4(7 + 2) &= 2 \cdot 3 + 4(9) \\ &= 6 + 36 \\ &= 42 \end{aligned}$$

Example B:

$$\begin{aligned} [10 \div (18 - 16) + 20] \div 5 &= [10 \div 2 + 20] \div 5 \\ &= [5 + 20] \div 5 \\ &= 25 \div 5 \\ &= 5 \end{aligned}$$

29. $16 \div 4 + 7(4)(2)$

30. $40 \div 2 \cdot 5 + 1$

31. $100 - 4(18 - 2 + 8)$

32. $10 + 2\,[36 - (18 - 6)]$

33. Self Reflection. On a scale of 1-5, how confident are you with the material in this worksheet?

Were any of the exercises confusing or frustrating? If so, identify them here and write down your plan to master those topics.

Group Activity: Race to 1000

You will need:

- Two 12-sided dice
- Pencil and paper

How To Play.

1. Determine who will play first by having each player roll two dice. The player with the highest product goes first. Re-roll to break ties.
2. Each player starts with 0 points.
3. On your turn, roll the two dice and multiply the two results together. Add the product to your points.
4. If you roll doubles, announce that you rolled a "Perfect Square," record your points, and take another turn.
5. Pass the dice to your left so that play continues clockwise.
6. The first player to reach a total of 1000 points or greater wins!

Integers and the Number Line

This worksheet references topics from Chapter 1, as well as Chapter 10.1, Section 1: Integers on page 588.

Worksheet: Number Line Practice

Objectives

- Practice working with and communicating about negative numbers
- Make number comparisons and identify where numbers are on the number line

Introduction to Integers. Discuss each of the following situations with your group and write about what it means for a number to be positive, negative, and zero.

1. Temperature.

(a) Positive:

(b) Negative:

(c) Zero:

2. Checking account balance.

(a) Positive:

(b) Negative:

(c) Zero:

3. Elevation.

(a) Positive:

(b) Negative:

(c) Zero:

4. Profit for a business.

(a) Positive:

(b) Negative:

(c) Zero:

Exercise Group. Answer the following by comparing the two values.

5. $-3°-5°$

6. $20°-10°$

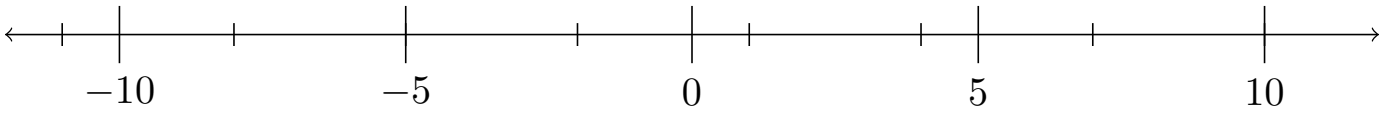
7. Rewrite each statement to use negative numbers instead of positive numbers, changing terms if needed to convey the same information.

(a) We were 100 feet below sea level.

(b) The brewing company had a $1,500 loss in 2015.

(c) The temperature outside was 12°F below zero.

8. **The Number Line.** Use the number line to solve the problems.



(a) $4 + 5$ (Start on 4, move right 5)

(b) $7 + (-3)$ (Start on 7, move left 3)

(c) $-4 + -3$ (Start on -4, move left 3)

(d) $-10 + 3$

(e) $3 + (-8)$

(f) $-6 + (-4) + 7 + 3$