

Al G

Name: _____
Ms. Napolitano

Date: _____
Activity #: _____

01 Homework

Exercise 1 (answer key starts on page 19)

- 1) In the number 78.9, what digit (number) is in the tenths place? _____
- 2) In the number 78.9, what digit (number) is in the ones place? _____
- 3) In the number 78.9, what digit (number) is in the tens place? _____
- 4) In the number 6174.903, what digit is in the thousands place? _____
- 5) In the number 6174.903, what digit is in the thousandths place? _____
- 6) In the number 6174.903, what digit is in the hundredths place? _____
- 7) In the number 6174.903, what digit is in the tenths place? _____
- 8) In the number 6174.903, what digit is in the ones place? _____
- 9) In the number 6174.903, what digit is in the tens place? _____
- 10) In the number 6174.903, what digit is in the hundreds place? _____

Exercise 2

Directions: translate the following numbers from English into decimal numbers

1. Twenty-nine _____
2. Eighty-one hundredths _____
3. Nine thousand thirty-four *and* seven tenths _____
4. One *and* four thousandths _____
5. One hundred *and* sixty-two thousandths _____
6. Forty-five hundredths _____
7. Four thousand three hundred twenty-one ten-thousandths _____
8. One hundred twenty *and* five tenths _____
9. Seventeen thousandths _____
10. One *and* seven tenths _____

Add. Use decimal models.

1. $2.46 + 1.13$

2. $2.05 + 1.87$

3. $2.91 + 1.8$

4. $1.34 + 1.15$

5. $0.51 + 0.63$

6. $1.74 + 0.36$

7. $2.05 + 1.12$

8. $2.93 + 2.74$

9. The length of a nickel is 2.1 centimeters. What is the length of two nickels laying side by side?

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02 Homework

Study the example problem showing how to subtract decimals. Then solve problems 1–5.

Example

Charlie collected 3.8 pounds of shells at the beach. Sebal collected 1.55 pounds of shells. How many more pounds did Charlie collect than Sebal?

To solve, subtract 1.55 from 3.8. Use a place-value chart to help. Regroup as needed to subtract.

	ones	.	tenths	hundredths
Charlie's shells	3	.	8	0
Sebal's shells	1	.	5	5


$$3 \text{ ones} - 1 \text{ one} = 2 \text{ ones}$$


$$7 \text{ tenths} - 5 \text{ tenths} = 2 \text{ tenths}$$

$$10 \text{ hundredths} - 5 \text{ hundredths} = 5 \text{ hundredths}$$

$$\text{Difference} = 2 \text{ ones} + 2 \text{ tenths} + 5 \text{ hundredths}$$

Charlie collected 2.25 pounds more than Sebal.

-  Explain why you have to use regrouping in the example problem?

-  You can also subtract decimals by writing the problem vertically, lining up the decimal points to keep track of the place values.

$$\begin{array}{r} 7 \text{ to} \\ 3.8\cancel{0} \\ - 1.55 \\ \hline \end{array}$$

The problem to the right is partially completed.


How does the regrouping shown relate to the place-value method used in the example?

Solve.

At a diving competition, Allison scored 28.5 on her first dive. Hannah's score on her first dive was 74.65. How many more points did Allison score on her first dive than Hannah?


Show your work.

Solution: _____

-  Franklin hiked 1.38 kilometers from the nature center to the waterfall. Then he hiked 2.6 kilometers to the bridge. Finally, he hiked 3.45 kilometers to return to the nature center. How many kilometers did Franklin hike in all?

Show your work.

Solution: _____

-  Dharma and Jorge are looking at cell phone plans. A group plan will cost an average of \$135.95 per month. An individual plan will cost an average of \$72.75 per month. Should Dharma and Jorge purchase a group plan or two individual plans? How much money could they save?

Show your work.

Solution: _____

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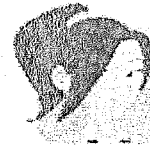
03 Homework

Solve the problems.

- On the floor exercise, Nadia scored 9.85. Mary Lou scored 8.975. How much higher was Nadia's score on the floor exercise?

Show your work.

You can write 0s to help you keep the place values aligned.



Solution: _____

- Jeremy has three pencils. One pencil is 9.36 inches long. The second pencil is 6.7 inches long. The third pencil is 8.025 inches long. Will placing the pencils end to end make a total length greater than 2 feet?

Show your work.

How many inches are there in 2 feet?

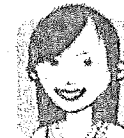


Solution: _____

- Terri walked 3.825 miles yesterday. Today she walked 5.5 miles. How many more miles did Terri walk today than yesterday?

- A 1.675 miles C 1.785 miles
B 1.725 miles D 2.325 miles

Which number is the greater number?



Brenda chose B as the correct answer. How did she get that answer?

Hal's backpack weighs 3.54 pounds. Sarah's pack weighs 2.129 pounds. Frank's pack weighs 2.8 pounds. Select *True* or *False* for each statement.

- a. Hal's backpack weighs 1.429 pounds more than Sarah's. ☐ True ☐ False
- b. The combined weight of the backpacks is more than 8.5 pounds. ☐ True ☐ False
- c. Frank's backpack is 0.671 pound heavier than Sarah's. ☐ True ☐ False
- d. Hal's backpack is less than 1 pound heavier than Frank's. ☐ True ☐ False

Be sure that you choose the correct operation to evaluate each statement.



Which of these equals 2.427? Select all that apply.

- A $1.34 + 1.087$
- B $1.4 + 1.027$
- C $8.35 - 5.923$
- D $6 - 3.573$

Be sure that you add or subtract digits with the same place value.



Kristin weighs three kittens at a vet's clinic. The heaviest one weighs 3.28 pounds. The heaviest kitten is 1.056 pounds heavier than the medium-weight one. The lightest kitten is 1.2 pounds lighter than the medium-weight kitten. What is the total weight of the kittens?

Show your work.

How can you find the weights of the medium-weight and lightest kittens?



Solution:

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04 Homework

Solve the problems.

- 1 Randy rode his bike 1.23 miles to school from his house. After school, he rode 0.9 mile farther to the library. Randy biked home along the same route, stopping at a park 1.05 miles from the library. How many miles is the park from Randy's house?

A 3.18
B 2.37
C 1.08
D 0.27

- 2 Tim tracked the change in outside temperature one afternoon. He recorded a temperature of 85.4°F at noon. The temperature then rose 3.85°F over the next 4 hours. At 5:00 *pm*, Tim recorded a temperature of 89.25°F . How did the temperature change between 4:00 *pm* and 5:00 *pm*?

A The temperature increased 0.8°F .
B The temperature decreased 0.2°F .
C The temperature increased 1°F .
D There is no change in temperature.

- 3 Tell whether each equation is *True* or *False*.

a. $198.5 - 42.81 = 155.69$
☐ True ☐ False

b. $73.27 + 251.6 = 98.43$
☐ True ☐ False

c. $37.04 + 56.20 = 93.6$
☐ True ☐ False

d. $70.64 - (9.3 + 29.36) = 90.7$
☐ True ☐ False

e. $38.2 - (11.11 + 23.76) = 3.33$
☐ True ☐ False

- 4 The sum of three decimal numbers is 6. Exactly one of the numbers is less than 1. What could those numbers be?

Show your work.

Answer

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Equations

Homework Packet for Equations

All of your work must be shown in your homework notebook!

Day 12: One-step multiplying and dividing equations

Solve the equation. Check your solution.

1. $16t = 60$

2. $1.5 = 3.3y$

3. $\frac{1}{8}d = -\frac{3}{5}$

4. $\frac{d}{1.2} = -3.3$

5. $18 = -\frac{6}{11}h$

6. $-7.24q = 17.014$

In Exercises 7 and 8, write an equation. Then solve.

7. If a project is handed in late, you receive $\frac{8}{9}$ of your earned points. You received 72 points on your late project. How many points did you lose?

8. There are 92 students in a room. They are separated into 18 groups. How many students are in each group? How many students are not in a group?

9. A bus token costs \$1.75.

- You spend \$15.75 on tokens. Write and solve an equation to find how many tokens you purchase.
- If you purchase 10 tokens, you get 2 free tokens. Write and solve an equation to find the approximate reduced price of each token.
- You also receive free tokens if you purchase 20 tokens. The reduced price for each token is \$1.40. Write and solve an equation to find how many free tokens you receive.

10. Solve $\frac{1}{3}|z| = 2$.

Day 13: Solving two-step equations

Solve the equation. Check your solution

1. $3k - 2 = 10$

2. $5p + 2 = -10$

3. $-4x + 3 = -11$

4. $12 = 2d + 3.2$

5. $-1 - 5h = 14$

6. $1.25r - 7 = 2.5$

7. $-4k + 3.6 = 7.8$

8. $\frac{5}{6} + 3j = -\frac{2}{3}$

9. $\frac{1}{2}b + \frac{9}{4} = \frac{7}{4}$

Day 14: Solving two-step equations [combining like terms or using the distributive property before solving]

Solve the equation. Check your solution.

1) $-\frac{9}{10}p - 3 = \frac{3}{5}$

2) $5x - 7x = -22$

3) $-9 + 6c + 10 - 10c = -43$

4) $6(c + 5) = 25$

5) $3(k - 5) = -16$

6) $-2(m + 1) = 10 -$

Day 15: Solving two-step equations.

Solve the equation. Check your solution.

1. $5k - 8 = 7$

2. $6b + 9 = -15$

3. $-3.2w - 2 = -4.5$

4. $13 - 2n = 27$

5. $25 = 4.5z + 12$

6. $5.25s - 2.01 = -8.94$

7. $7c - 2c = 45$

8. $\frac{-2}{7}(5 - y) = \frac{-6}{7}$

9. $-2(1 + c) + 4c = -9$

Day 16: Write and solve two-step equations

Solve the equation. Check your solution.

1. $\frac{1}{4}z - \frac{2}{7} = \frac{5}{7}$

2. $3 - \frac{r}{8} = -\frac{9}{2}$

3. $-\frac{1}{3} + 5e = -\frac{3}{4}$

4. $14d - 2d = -84$

5. $-5g - 13g = 54$

6. $-3(t - 8) = 32$

In Exercises 7 - 10, write an equation. Then solve.

7. Ethan planted a tree that is 37.5 inches tall. If the tree grows 3 inches each year, how long will it take for the tree to reach a height of 54 inches?

8. A music download service charges a flat fee each month and \$0.99 per download. The total cost for downloading 27 songs this month is \$42.72. How much is the flat fee?

9. Kayla's age is 3 less than twice her brother's age. Kayla is 13 years old. How old is her brother?

10. Mario spent \$23.85 at the bookstore on one book and some magazines. The book cost \$12.60 and the magazines cost \$2.25 each. How many magazines did Mario buy?

Day 17: Write and solve two-step equations and review of expressions.

Find the sum or difference.

1. $(4y + 3) - (y - 2)$

2. $(3p - 7) + (5p - 6)$

6. $(-2h + 1) + 2(3h - 4)$

7. $(5b - 9) - 3(8 - 2b)$

Factor out the coefficient of the variable.

3. $9x - 36$

4. $\frac{1}{5}k + 15$

Solve the equation. Check your solution.

5. $-5x - 2x + 3x = 9$

6. $-5(m + 4) = 27$

7. $-12(a - 2) = -50$

In Exercises 8-10, write an equation. Then solve.

8. You purchased \$132.49 worth of wheels and bearings for your skateboards.

The shop charges \$15 per board to install them. The total cost is \$192.49. How many skateboards will be repaired?

9. The perimeter of a triangle is 60 feet. One leg is 12 feet long. Of the two unknown sides, one of them is twice as long as the other. Find the lengths of the two unknown sides.

10. Sally picks seashells by the seashore. She lost 17 of them on her way home. She planned to fill 5 jars with the same amount of seashells in each. How many seashells did Sally pick?

a. You do not have enough information to solve this problem. The number of seashells in each jar is the same as the number portion of her street address, which is a 2-digit number. The first digit is 5. The last digit is 9 less than 3 times the first digit. How many seashells did Sally plan to put in each jar?

b. By working backwards, determine how many seashells Sally picked.

c. The 5 jars that Sally chose would not each hold that many seashells. In her search for a 6th jar, she discovered a few seashells in her pocket. What are possible values for the number of seashells in each of the 6 jars and the number of seashells discovered in her pocket, such that there are no seashells left over?

Name:

date:

DUKE HOMEWORK

SHOW YOUR
WORK

① what is 20% of 600

② what is 35% of 50

③ what is 50% of 246

④ what is 75% of 225

⑤ what is 26% of 150

⑥ what is 8% of 45

Writing Linear Expressions

CAM

Solve the problems.

- 1 A store owner who bought comforters for x dollars is marking them up 60%. Write two expressions that represent the selling price and show that they are equivalent.

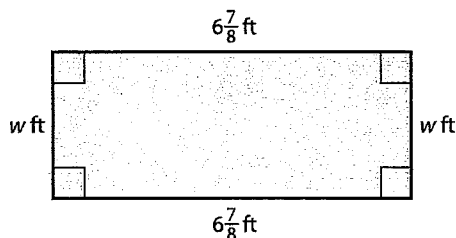
Show your work.

To mark something up means to increase the price.



Solution: _____

- 2 A rug is $6\frac{7}{8}$ feet long and w feet wide. Which expression does NOT represent the perimeter of the rug in feet? Circle the correct answer.



How do you find the perimeter of a rectangle?



- A $2(6\frac{7}{8} + w)$ C $2(6\frac{7}{8}) + w$
 B $2w + 13\frac{6}{8}$ D $6\frac{7}{8} + w + 6\frac{7}{8} + w$

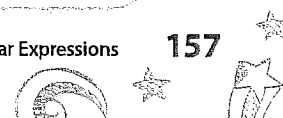
- 3 Which of the following expressions are equivalent to $4x - 8$? Select all that apply.

- A $2(2x - 8)$
 B $(2x - 4) + (2x - 4)$
 C $x + x + x + x + 2 + 2 + 2 + 2$
 D $4(x - 2)$

What makes two expressions equivalent?



Jesse chose A as his answer. How did he get that answer?



Solve.

- 4** For each expression, select *Yes* or *No* to indicate whether the expression could be used to represent a 30% discount. Let x represent the original amount.

a. $x - 0.7$

☐ Yes

☐ No

b. $0.3(x - 1)$

☐ Yes

☐ No

c. $0.7x$

☐ Yes

☐ No

d. $x - (0.3x)$

☐ Yes

☐ No

What does a discount do to the original price?



- 5** Six bakers use a total of $12x - 3.6$ pounds of flour each hour. If each baker uses the same amount of flour, find an expression for the number of pounds each baker uses in an hour. Then write an expression equivalent to $12x - 3.6$ to represent the total flour used in an hour.

Show your work.

Is the fact that they use the same amount important?



Solution: _____

- 6** Alice is paying her bill at a restaurant. The tax on the cost of her meal is 5%. She decides to leave a tip of 20% of the cost of the meal plus the tax. Write an expression for her total bill if the cost of her meal is m dollars. Write your answer in simplified form.

Show your work.

How can you write a percent as a decimal?



Solution: _____

Name: _____

Score: _____

JH/CT

Exponential Rules

Use laws of exponents to rewrite each expression as single positive exponent:

1) $((-4)^5)^8 \div ((-4)^7)^3$

2) $\frac{19^{-7} \times 19^{-5}}{19^{-6}}$

3) $(8^3)^{-5} \times (8^5)^4$

4) $\frac{8^{-4} \times 8^{-2}}{8^2}$

5) $((-12)^8)^4 \times ((-12)^9)^{-3}$

6) $(13^6)^2 \div (13^3)^2$

7) $(17^6)^5 \times (17^4)^{-3} \times 17^{-8}$

8) $((-17)^8)^4 \div ((-17)^4)^5$

9) $\frac{(-3)^7 \times (-3)^5}{(-3)^{-2}}$

10) $(2^8)^3 \div (2^6)^3$

11) $\frac{(-4)^{-8}}{(-4)^6 \times (-4)^{-7}}$

12) $11^9 \times (11^4)^6 \times (11^7)^{-3}$

13) $2^6 \times 2^9 \times (2^3)^{-4}$

14) $(-19)^9 \div ((-19)^2)^2$

15) $\frac{9^{-7}}{9^4 \times 9^{-10}}$

