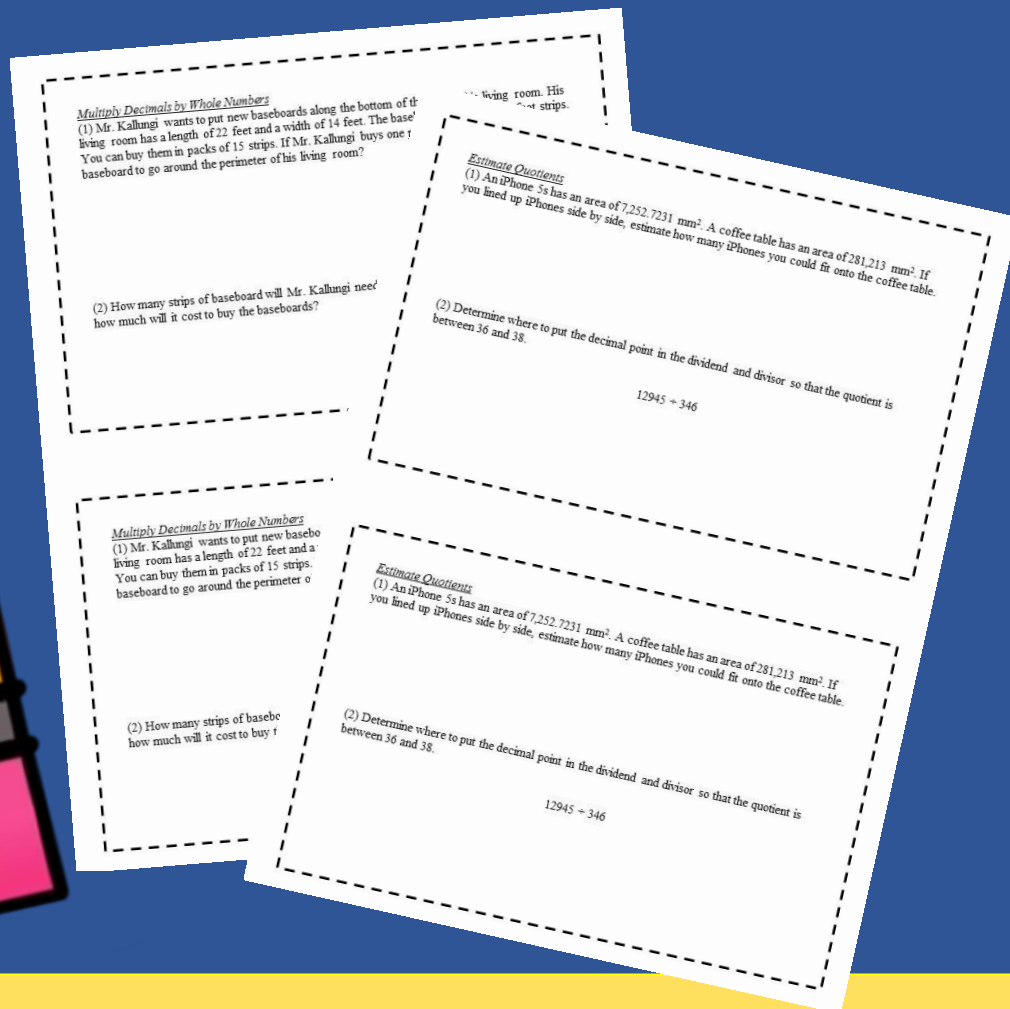
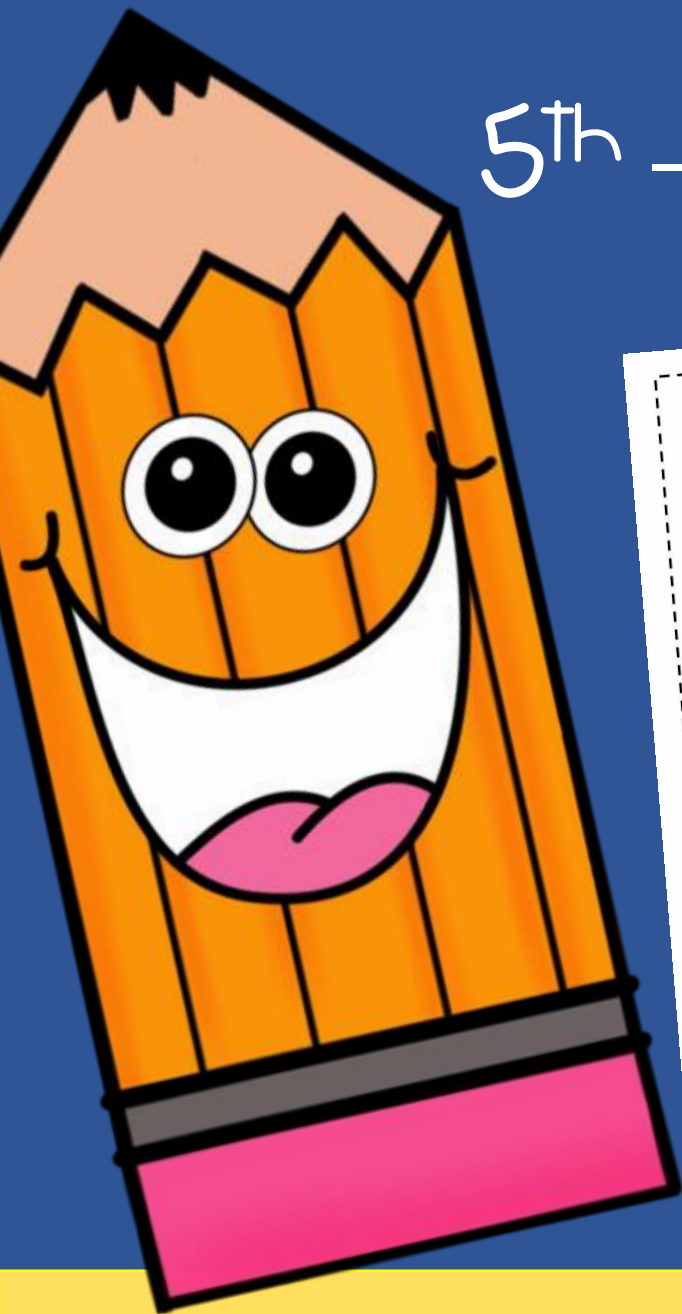


Math Enrichment

TASK CARDS

5th – 6th grade math



Decimals and Exponents

Created by Alex O'Connor

Add Decimals

(1) Ms. Arcia lives 8.76 miles away from school. After school, she stops at the grocery store, which is 1.9 miles away from school. The trip back to her apartment from the store is 9.14 miles. How many total miles did she drive?

(2) In the problem above, gas costs \$2.29 per gallon. Her car gets 30 miles per gallon. How much money will she spend on gas during this trip? Round to the nearest cent.

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Subtract Decimals

(1) Savannah's family goes on a road trip that is a total distance of 379.34 miles. Henry's family takes a trip that is a total of 522.1 miles. How many more miles did Henry's family travel than Savannah's family?

(2) How many more feet did Henry's family travel?

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Multiply Decimals by Whole Numbers

(1) Mr. Kallungi wants to put new baseboards along the bottom of the wall in his living room. His living room has a length of 22 feet and a width of 14 feet. The baseboards come in 4.62 foot strips. You can buy them in packs of 15 strips. If Mr. Kallungi buys one pack, will he have enough baseboard to go around the perimeter of his living room?

(2) How many strips of baseboard will Mr. Kallungi need to use in all? If each strip costs \$3.75, how much will it cost to buy the baseboards?

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(1) The iPhone 5s has a base of 58.57 mm and a height of 123.83 mm. Find the area of the iPhone 5s. Round your answer to the hundredths place.

(2) The screen on the iPhone 5s has a base of 51.7 mm and a height of 90.39 mm. Find the area of the iPhone's screen. Round your answer to the hundredths place.

(3) Find the area on the front of the iPhone that isn't part of the screen.

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Estimate Quotients

(1) An iPhone 5s has an area of $7,252.7231 \text{ mm}^2$. A coffee table has an area of $281,213 \text{ mm}^2$. If you lined up iPhones side by side, estimate how many iPhones you could fit onto the coffee table.

(2) Determine where to put the decimal point in the dividend and divisor so that the quotient is between 36 and 38.

$$12945 \div 346$$

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Divide Decimals by Whole Numbers

(1) Clayton Kershaw, a baseball player for the Los Angeles Dodgers, makes \$30.15 million per year. There are 162 games in a major league baseball season. Carmello Anthony, a basketball player for the Knicks, makes \$24.81 million per year. There are 82 games in a NBA season. Which player is making more money per game played? Round any answers to the hundredths place.

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Divide Decimals by Decimals

(1) On average, the Earth is 92.96 million miles from the sun. Jupiter is 483.8 million miles from the sun. How many times farther from the sun is Jupiter than Earth? Round your answer to the hundredths place.

(2) If you are in a spaceship that could travel from the Earth to the sun at a speed of 1.6 million miles per hour, how long would it take you to get to the sun?

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Exponents

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Add Decimals (ANSWER KEY)

(1) Ms. Arcia lives 8.76 miles away from school. After school, she stops at the grocery store, which is 1.9 miles away from school. The trip back to her apartment from the store is 9.14 miles. How many total miles did she drive?

19.8 miles

(2) In the problem above, gas costs \$2.29 per gallon. Her car gets 30 miles per gallon. How much money will she spend on gas during this trip? Round to the nearest cent.

$$\begin{aligned} 19.8 \div 30 &= 0.66 \text{ gallons used} \\ 0.66 \times 2.29 &= \$1.51 \end{aligned}$$

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(1) Savannah's family goes on a road trip that is a total distance of 379.34 miles. Henry's family takes a trip that is a total of 522.1 miles. How many more miles did Henry's family travel than Savannah's family?

$$522.1 - 379.34 = 142.76 \text{ miles}$$

(2) How many more feet did Henry's family travel?

$$142.76 \times 5,280 = 753,772.8 \text{ feet}$$

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(1) Mr. Kallungi wants to put new baseboards along the bottom of the wall in his living room. His living room has a length of 22 feet and a width of 14 feet. The baseboards come in 4.62 foot strips. You can buy them in packs of 15 strips. If Mr. Kallungi buys one pack, will he have enough baseboard to go around the perimeter of his living room?

$$\text{Perimeter of room} = 22 + 22 + 14 + 14 = 72 \text{ feet}$$

Total length of 15 baseboard strips (1 pack)

$$\begin{array}{r} 4.62 \\ \times 15 \\ \hline 69.3 \text{ feet} \end{array}$$

No, one pack of baseboards will not be enough to cover the perimeter of his living room.

(2) How many strips of baseboard will Mr. Kallungi need to use in all? If each strip costs \$3.75, how much will it cost to buy the baseboards?

Mr. Kallungi will need 16 strips of baseboard, which will cost:

$$\begin{array}{r} 3.75 \\ \times 16 \\ \hline 60 \text{ dollars} \end{array}$$

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(1) The iPhone 5s has a base of 58.57 mm and a height of 123.83 mm. Find the area of the iPhone 5s. Round your answer to the hundredths place.

$$\begin{array}{r} 123.83 \\ \times 58.57 \\ \hline 7,252.7231 \end{array}$$

$$7,252.72 \text{ mm}^2$$

(2) The screen on the iPhone 5s has a base of 51.7 mm and a height of 90.39 mm. Find the area of the iPhone's screen. Round your answer to the hundredths place.

$$\begin{array}{r} 90.39 \\ \times 51.7 \\ \hline 4,673.163 \end{array}$$

$$4,673.16 \text{ mm}^2$$

(3) Find the area on the front of the iPhone that isn't part of the screen.

$$7,252.72 - 4,673.16 = 2,579.56 \text{ mm}^2$$

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Estimate Quotients (ANSWER KEY)

(1) An iPhone 5s has an area of $7,252.7231 \text{ mm}^2$. A coffee table has an area of $281,213 \text{ mm}^2$. If you lined up iPhones side by side, estimate how many iPhones you could fit onto the coffee table.

$$\begin{aligned} \text{Estimate } 281,213 \div 7,252.7231 \\ 280,000 \div 7,000 = 40 \end{aligned}$$

About 40 iPhones would be able to fit on the coffee table.

(2) Determine where to put the decimal point in the dividend and divisor so that the quotient is between 36 and 38.

$$12945 \div 346$$

Possible answers:

$$\begin{aligned} 12,945.0 \div 346.0 \\ 1,294.5 \div 34.6 \\ 129.45 \div 3.46 \\ 12.945 \div 0.346 \end{aligned}$$

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Divide Decimals by Whole Numbers (ANSWER KEY)

(1) Clayton Kershaw, a baseball player for the Los Angeles Dodgers, makes \$30.15 million per year. There are 162 games in a major league baseball season. Carmello Anthony, a basketball player for the Knicks, makes \$24.81 million per year. There are 82 games in a NBA season. Which player is making more money per game played? Round any answers to the hundredths place.

Clayton Kershaw dollars per game

$$30.15 \div 162 = 0.19 \text{ million dollars per game}$$

Carmello Anthony dollars per game

$$24.81 \div 82 = 0.30 \text{ million dollars per game}$$

Carmello Anthony makes more money per game than Clayton Kershaw.

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$$483.8 \div 92.96 = 5.20$$

Jupiter is 5.20 times farther from the sun than Earth.

(2) If you are in a spaceship that could travel from the Earth to the sun at a speed of 1.6 million miles per hour, how long would it take you to get to the sun?

$$92.96 \div 1.6 = 58.1$$

It would take you 58.1 hours to reach the sun.

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$$483.8 \div 92.96 = 5.20$$

Jupiter is 5.20 times farther from the sun than Earth.

(2) If you are in a spaceship that could travel from the Earth to the sun at a speed of 1.6 million miles per hour, how long would it take you to get to the sun?

$$92.96 \div 1.6 = 58.1$$

It would take you 58.1 hours to reach the sun.

Exponents (ANSWER KEY)

(1) Which is greater, 5^6 or 6^5 ?

$$5^6 = 5 \times 5 \times 5 \times 5 \times 5 \times 5 = 15,625$$

$$6^5 = 6 \times 6 \times 6 \times 6 \times 6 = 7,776$$

5^6 is greater than 6^5 .

(2) When flipping a coin 10 times, the odds of flipping all heads is 1 in 2^{10} . Write this probability without using an exponent.

$$2^{10} = 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 = 1,024$$

The probability of flipping heads ten times in a row is 1 in 1,024.

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