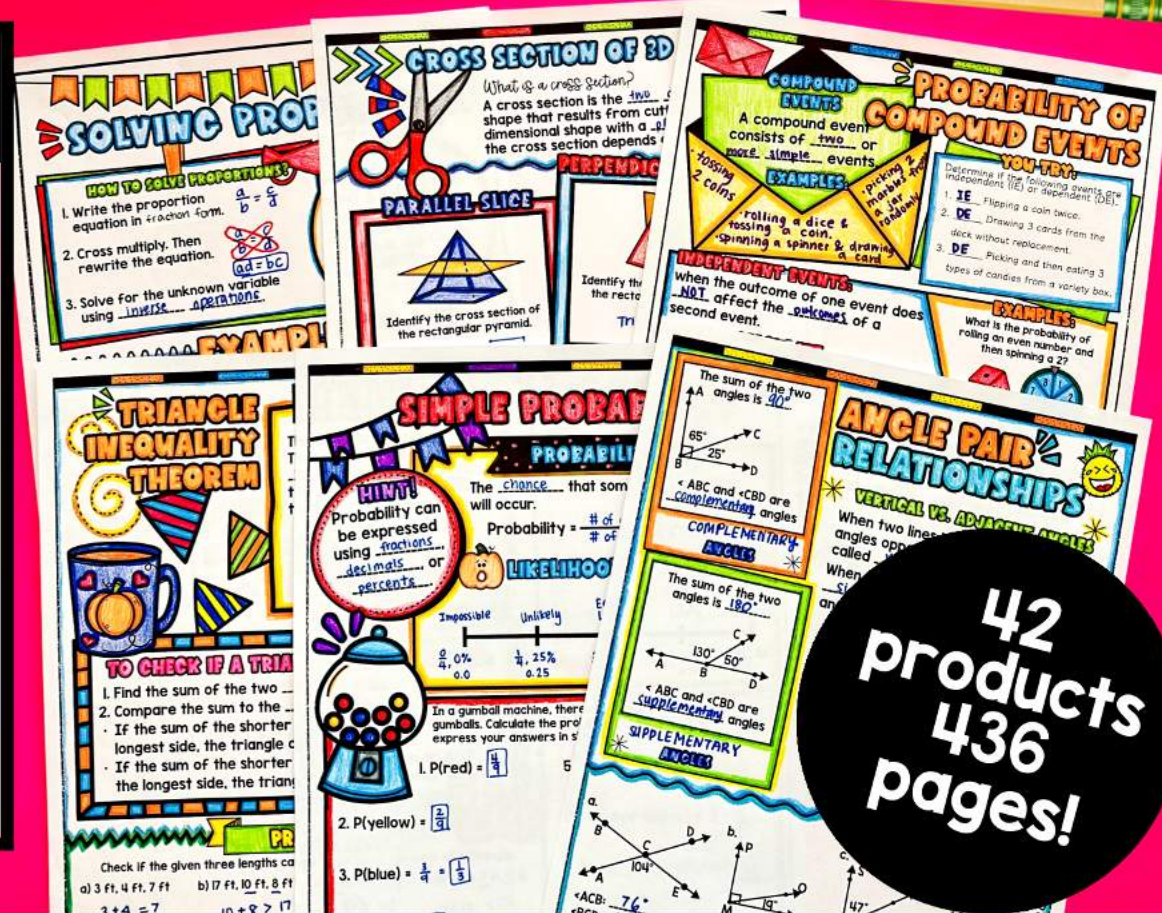


7TH GRADE CCSS - UNIT BUNDLE

7TH GRADE CCSS GUIDED NOTES BUNDLE

Guided Notes Units

1. Rational Numbers
2. Expressions
3. Equations & Inequalities
4. Ratios, Rates & Proportions
5. Percents & Money
6. Plane Geometry & Angle Relationships
7. Volume & Surface Area
8. Statistics
9. Probability



42
products
436
pages!

Fun and engaging notes!



FOR THIS LESSON, JUST USE 3.14 FOR π !

1 Radius = 9 cm. Find the area.
 $A = \pi r^2$
 $A = 3.14 \times 9^2$
 $A = 254.34 \text{ cm}^2$

2 Find the circumference.
 Radius = 15 cm
 $C = 2\pi r$
 $C = 2 \times 3.14 \times 15$
 $C = 94.2 \text{ cm}$


4 Find the circumference.
 Radius = 3 cm
 $C = 2\pi r$
 $C = 2 \times 3.14 \times 3$
 $C = 18.84 \text{ cm}$

5 Radius = 15 ft. Find the circumference.
 $C = 2\pi r$
 $C = 2 \times 3.14 \times 15$
 $C = 94.2 \text{ ft}$

7 Find the...
 $d = 29$, $r = 14.5$

Formula: $C = 2\pi r$

AREA OF CIRCLES



THE AREA IS the space, in square units, inside the circle

$A = \pi r^2$
 $A = \pi \left(\frac{d}{2}\right)^2$

r = radius d = diameter

FOR THIS LESSON, JUST USE 3.14 FOR π !

1. FIND THE AREA.
 Radius = 5 cm
 $A = \pi r^2$
 $A = 3.14 \times 5^2$
 $A = 78.5 \text{ cm}^2$

2. FIND THE AREA OF THE CIRCLE WITH DIAMETER OF 7 CM.
 $d = 7$ so $r = 3.5$
 $A = \pi r^2$
 $A = 3.14 \times (3.5)^2$
 $A = 38.465 \text{ cm}^2$
 round to nearest hundredths...
 $A = 38.47 \text{ cm}^2$

3. FIND THE AREA OF THE CIRCLE WITH RADIUS OF 8 FT.
 $A = \pi r^2$
 $A = 3.14 \times 8^2$
 $A = 200.96 \text{ ft}^2$


4. FIND THE AREA.
 Diameter = 12 ft
 $d = 12$ so $r = 6$
 $A = \pi r^2$
 $A = 3.14 \times 6^2$
 $A = 113.04 \text{ ft}^2$

5. FIND THE AREA OF THE CIRCLE WITH DIAMETER OF 25 FT.
 $d = 25$ so $r = 12.5$
 $A = \pi r^2$
 $A = 3.14 \times (12.5)^2$
 $A = 490.625 \text{ ft}^2$
 round to nearest hundredths...
 $A = 490.63 \text{ ft}^2$

Formula: $A = \pi r^2$

CIRCUMFERENCE OF CIRCLES

TRACE THE CIRCUMFERENCE OF THE TWO CIRCULAR WHEELS!



Solve. Round answers to the nearest hundredths. Use 3.14 for π .

1. FIND THE CIRCUMFERENCE OF THE CIRCLE WITH RADIUS OF 4 CM.
 $C = 2\pi r$
 $C = 2 \times 3.14 \times 4$
 $C = 25.12 \text{ cm}$

2. FIND THE CIRCUMFERENCE.
 Diameter = 7 ft
 $C = \pi d$
 $C = 3.14 \times 7$
 $C = 21.98 \text{ ft}$

3. FIND THE CIRCUMFERENCE OF THE CIRCLE WITH DIAMETER OF 20 FT.
 $C = \pi d$

4. FIND THE...

Every set of guided notes includes sketch notes, practice, and real-life applications.

Practice
3 pages

Guided Notes
2 pages

Real-Life Uses
1 page

AREA OF CIRCLES

THE AREA IS the space, in square units, inside the circle

$$A = \pi r^2$$

$$A = \pi \left(\frac{d}{2}\right)^2$$

FOR THIS LESSON, JUST USE 3.14 FOR π !

Solve. Round answer to the nearest hundredths. Use 3.14 for π .

1. FIND THE AREA.

5 cm

$$A = \pi r^2$$

$$A = 3.14 \times 5^2$$

$$A = 78.5 \text{ cm}^2$$

2. FIND THE AREA OF THE CIRCLE WITH DIAMETER OF 7 CM.

$$d = 7 \text{ so } r = 3.5$$

$$A = \pi r^2$$

$$A = 3.14 \times (3.5)^2$$

$$A = 38.465 \text{ cm}^2$$

round to nearest hundredths.

$$A = 38.47 \text{ cm}^2$$

3. FIND THE AREA.

12 ft

$$d = 12 \text{ so } r = 6$$

$$A = \pi r^2$$

$$A = 3.14 \times 6^2$$

$$A = 113.04 \text{ ft}^2$$

4. FIND THE AREA OF THE CIRCLE WITH DIAMETER OF 25 CM.

$$d = 25 \text{ so } r = 12.5$$

$$A = \pi r^2$$

$$A = 3.14 \times (12.5)^2$$

$$A = 490.625 \text{ cm}^2$$

round to nearest hundredths.

THE CIRCUMFERENCE IS the distance, in units, around the circle

$$C = 2\pi r$$

$$C = \pi d$$

r = radius
d = diameter

$$\approx 3.14$$

$$\frac{22}{7}$$

THE RATIO OF CIRCUMFERENCE TO DIAMETER IS π .

TRACE THE CIRCUMFERENCE OF THE TWO CIRCULAR WHEELS!



Solve. Round the nearest hundredths. Use 3.14 for π .

1. FIND THE CIRCUMFERENCE OF THE CIRCLE WITH RADIUS OF 4 CM.

$$C = 2\pi r$$

$$C = 2 \times 3.14 \times 4$$

$$C = 25.12 \text{ cm}$$

2. FIND THE CIRCUMFERENCE OF THE CIRCLE WITH DIAMETER OF 20 FT.

$$C = \pi d$$

$$C = 3.14 \times 20$$

$$C = 62.8 \text{ ft}$$

PERSON EXTENSION: WORLD APPLICATION

AMUSEMENT PARK RIDES

The area and circumference of circles are used in many ways.

For example, circumference plays an important role in the construction process. When designing the tracks for a roller coaster, engineers consider its size. The larger the circle will be, and the more compartments it can hold. Engineers can calculate the circumference of a track to determine the amount of compartments it can safely hold.

Some amusement park designs incorporate circular tracks. In those designs, the circumference impacts the centripetal force that keeps the circular-shaped sections of a track from falling. These features give riders the feelings of being pushed downward one moment and upward the next.

Circumference plays an important role in the design of many amusement rides.

SELF REFLECTION: HOW CONFIDENT DO YOU FEEL ABOUT THIS LESSON?

CIRCLE ONE!



Variety of practice activities incorporated!

SCALE DRAWING

EXAMPLE: Nancy made a scale drawing of a house. The scale she used was 2 cm = 7 ft. If the height of the house in the scale drawing was 70 cm, what was the actual height of the house?

Use ratios & proportions to solve!

What's An _____

Scale Drawing
scale
2 cm to 7 ft
70 cm

TIPS TO SOLVING PROPORTIONS

- Any units expressed in a proportion must be consistent.
- When units are used, the units of the numerators must match, and the units of the denominators must match.

SCALE DRAWING

EXAMPLE: Nancy made a scale drawing of a house. The scale she used was 2 cm = 7 ft. If the height of the house in the scale drawing was 70 cm, what was the actual height of the house?

Use ratios & proportions to solve!

$$\frac{2 \text{ cm}}{7 \text{ ft}} = \frac{70 \text{ cm}}{x \text{ ft}}$$

$$2x = (70)(7)$$

$$\frac{2x}{2} = \frac{490}{2}$$

$$x = 245 \text{ ft}$$

Scale Drawing
scale
2 cm to 7 ft
70 cm

Real House

What's a scale drawing?
An enlarged or reduced drawing that is proportional to the original object.

TIPS TO SOLVING PROPORTIONS

- Any units expressed in a proportion must be consistent.
- When units are used, the units of the numerators must match, and the units of the denominators must match.

WHAT'S A SCALE?

Scale is the ratio that defines the relationship between the actual figure and its model or drawing.

WHY SCALE DRAWINGS?

Scale drawings allow us to accurately represent sites, spaces, buildings, etc.

YOU TRY

1a) An architect and is the drawing of a downtown L.A. The actual base of 2500 feet of the building on his paper, so the base of the drawing is 4 inches. What scale is used?

1b) Using the same scale, what is the height, in inches, of the building in his drawing?

2a) If 1 inch on a map represents 13 miles, then how many miles in real life will be represented by 18 inches on the map?

2b) If 1 inch on a map represents 13 miles, then how many miles in real life will be represented by 18 inches on the map?

3a) What is the area of the actual kite?

3b) What is the area of the actual kite?



YOU TRY

SCALE FACTOR

1a) Jake is an architect and is making a scale drawing of a building in downtown... building has a base and height of... his drawing... he decides... he using?

1 inch

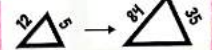
2a) The length

Guided Notes
1 page

MAZE

START HERE!

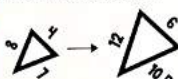
In the pair of similar triangles below. Find the scale factor.



7

SOLVE THE PROBLEMS TO ESCAPE THE MAZE!

In the pair of similar triangles below. Find the scale factor.



The scale on a map is 3 in : 7 miles. How long, in miles, is an actual corn field that is 18 in long on the map?

The two figures missing

Practice
3 pages

COLOR BY CODE

40, 4, 6, 7, 0.5 or 1/2, 24, 22.5, 25, 5, 270, 1/3

SCALE DRAWING

EXAMPLE

Nancy made a scale drawing of a house. The scale she used was 2 cm = 7 ft. If the height of the house in the scale drawing was 70 cm, what was the actual height of the house?

Use ratios and proportions to solve!

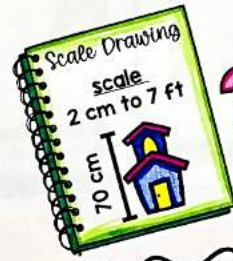
$$\frac{2 \text{ cm}}{7 \text{ ft}} = \frac{70 \text{ cm}}{x \text{ ft}}$$

$$2x = (70)(7)$$

$$2x = 490$$

$$\frac{2x}{2} = \frac{490}{2}$$

$$x = 245 \text{ ft}$$



Real House



Real-Life Uses
1 page

REAL LIFE APPLICATION

...important in various aspects of our lives.

...designing a new building. You have all... before construction can begin, you... vision to the builders and contractors. ...ings come in. A blueprint is essentially a... that shows all the dimensions, layouts, and... ing. Contractors can look at the blueprint and... to construct the building, where each wall, window, and door should be placed, and how everything fits together.

...and Digital Scale Drawings

...ur modern age, we often rely on GPS navigation to get from... place to another. GPS devices and apps also use scale drawings. ... you're looking at a GPS screen, you're essentially viewing a... scale drawing of the roads and landscape around you. The... stem calculates your position and plots it on the digital map... you real-time navigation guidance.

TIPS TO SOLVING PROPORTIONS

WHAT'S A SCALE?

Colorful and visual notes!

SIMPLE PROBABILITY

PROBABILITY:

The chance that some desired event will occur.

Probability = $\frac{\# \text{ of desired outcomes}}{\# \text{ of possible outcomes}}$

HINT! Probability can be expressed using fractions, decimals, or percents.

LIKELIHOOD OF EVENT

Impossible	Unlikely	Equally Likely	Likely	Certain
$\frac{0}{4}, 0\%$	$\frac{1}{4}, 25\%$	$\frac{2}{4}, 50\%$	$\frac{3}{4}, 75\%$	$\frac{4}{4}, 100\%$
0.0	0.25	0.5	0.75	1

In a gumball machine, there are 4 red, 2 yellow, and 3 blue gumballs. Calculate the probability of the following events and express your answers in simplest fractions.

- $P(\text{red}) = \frac{4}{9}$
- $P(\text{yellow}) = \frac{2}{9}$
- $P(\text{blue}) = \frac{3}{9} = \frac{1}{3}$
- $P(\text{green}) = \frac{0}{9}$ impossible
- $P(\text{red or blue}) = \frac{7}{9}$
- $P(\text{red or yellow}) = \frac{6}{9} = \frac{2}{3}$
- $P(\text{red, yellow, or blue}) = 1$ certain
- $P(\text{pink}) = \frac{0}{9}$ impossible

1

YOU TRY!

Reach your hand into the bag and choose a marble at random. Express the probabilities in percentage form.

Well = 30% P(B) = 20%
 Consonant = 70% P(E) = 10%
 P(R) = 30% P(A or B) = 30%

A fair die (6 sided) is rolled. Express the answers in simplest fraction form.

P(even #) = $\frac{1}{2}$ P(multiples of 2) = $\frac{1}{2}$
 P(odd #) = $\frac{1}{2}$ P(multiples of 4) = $\frac{1}{6}$
 P(2 or 3) = $\frac{1}{3}$ P(7) = 0
 P(5) = $\frac{1}{6}$ P(2 or higher) = $\frac{5}{6}$

1. You spin the spinner to the left. Express the probability in simplest fraction form.

$P(\text{shaded}) = \frac{3}{8}, 0.375, 37.5\%$
 $P(\text{unshaded}) = \frac{5}{8}, 0.625, 62.5\%$

2. You spin the spinner to the right. Express the probability in simplest fraction form.

$P(\text{smiley}) = \frac{2}{6} = \frac{1}{3}$
 $P(\text{neutral}) = \frac{3}{6} = \frac{1}{2}$
 $P(\text{frowny}) = \frac{1}{6}$

2

MAZE

Solve the problems to escape the maze. Highlight or shade in the path.

START!

The probability of rolling an odd number on a fair six sided dice is 0.5

An event with a probability of 1 is considered certain.

P(prime #) = $\frac{3}{8}$

P(rectangles) = $\frac{2}{3}$

P(quadrilateral) = $\frac{3}{4}$

You toss a coin in the air. P(heads) = 0.5

P(factors of 10) = 0.25

END!

SIMPLE PROBABILITY

PROBABILITY

The chance that some desired event will occur.

Probability = $\frac{\text{\# of desired outcomes}}{\text{\# of possible outcomes}}$

HINT!
Probability can be expressed using fractions, decimals, or percents.

LIKELIHOOD OF EVENT

Impossible Unlikely Equally Likely Certain

0, 0%, 0.0 $\frac{1}{4}$, 25%, 0.25 0.5 1

In a gumball machine, the gumballs. Calculate the probability and express your answers in simplest form.

1. $P(\text{red}) = \frac{4}{10}$ 5. $P(\text{orange}) = \frac{1}{10}$

2. $P(\text{yellow}) = \frac{3}{10}$

3. $P(\text{blue}) = \frac{2}{10}$

4. $P(\text{green}) = \frac{1}{10}$

Guided Notes
2 pages

YOU TRY!

You hand into the bag and choose a marble and express the probabilities in percentage form.

0% $P(B) = 20\%$

70% $P(E) = 10\%$

30% $P(A \text{ or } B) = 30\%$

A fair die (6 sided) is rolled. Express the answers in simplest fraction form.

$P(\text{even } \#) = \frac{1}{2}$ $P(\text{multiples of } 2) = \frac{1}{2}$

$P(\text{odd } \#) = \frac{1}{2}$ $P(\text{multiples of } 4) = \frac{1}{6}$

$P(2 \text{ or } 3) = \frac{1}{3}$ $P(7) = 0$

$P(5) = \frac{1}{6}$ $P(2 \text{ or higher}) = \frac{5}{6}$

2. You spin the spinner to the right. Express the probability in simplest fraction form.

Real-Life Uses
1 page

Real Life Application

Use of probabilities in real life is both broad and impactful, significantly influencing areas such as sports analytics and traffic flow analysis. In sports analytics, probability calculations play a crucial role. Analysts use these calculations to predict game outcomes, evaluate player performance, and guide strategic decisions. They analyze player statistics of a team winning a game. This approach helps coaches and managers make better decisions about player lineups and game strategy.

In traffic management, probability plays an important role in forecasting traffic patterns. Traffic analysts use probability to forecast traffic flow, which aids in designing more efficient traffic systems. They estimate the likelihood of various factors like time of day and weather conditions, which is essential for planners and engineers to make better decisions and reduce travel times.

COLOR BY CODE

Solve the problems to color the picture above. Then, fill in the colors with your desired colors.

Practice
2 pages

THE MAZE

Solve the problems to escape the maze. Highlight or shade in the path.

$P(4) = 0\%$

The probability of rolling an odd number on a fair six sided dice is 0.5

$P(\text{prime } \#) = \frac{3}{6}$

An event with a probability of 1 is considered certain.

Which best shows how you feel about this topic? Explain why.

😊 😄

confident math

Sketch notes infused with creativity & real life uses!

COLOR BY CODE

During the space mission, the astronaut encountered some space monsters. He learned that the growth of the monster is directly proportional to the time it spends in space. For every 1 day, the monster grows 1 meter. Graph the relationship.

Use the graph above to solve problems 1-4. Use the solution above. Fill in any remaining spaces with your desired colors.

1. What is the height, in meters, of the space monster on day 6?
2. What is the height, in meters, of the space monster on day 12?
3. Write an equation to represent the graph below.
4. Write an equation to represent the graph below.
5. Write an equation to represent the graph below.
6. Write an equation to represent the graph below.
7. Write an equation to represent the graph below.

$y = 5x$

$y = \frac{2}{5}x$

$y = \frac{3}{5}x$

$y = 5x$

$y = \frac{1}{3}x$

Height (meters)

PROPORTIONAL RELATIONSHIPS

The graph of a proportional relationship is a straight line that goes up at a constant rate, and passes through the origin.

$k = \frac{y}{x}$

In a proportional relationship, the unit rate is the constant of proportionality, k , between the two variable quantities.

Charlie found himself stranded on a mysterious planet during a space mission. Soon, he noticed that his body was aging at an accelerated rate compared to his time on Earth. The graph illustrates the relationship between the duration Charlie spends on the planet (x) and the corresponding increase in his age (y).

1. What does the point (6, 9) represent?
After 6 weeks on the planet, Charlie will have aged 9 additional years.

2. What does the point (0, 0) represent?
Before landing on the planet, Charlie is not aging at an accelerated rate.

3. Calculate the unit rate (constant of proportionality). What does it represent?
 $k = \frac{3}{2} = 1.5$
Every week on the planet, Charlie is aging 1.5 years.

4. Given that the weeks on planet, x , and the years aged, y , have a proportional relationship, write an equation between x and y .
 $y = 1.5x$ or $y = \frac{3}{2}x$

proportional relationships $Y = KX$

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GIFT WRAPPING

Jenny sells and wraps gifts for her customers, and the time it takes to wrap gifts is directly proportional to the number of gifts she sells. For instance, if Jenny sells 25 gifts, it would take her 25 minutes to wrap them.

Graph the proportional relationship on the coordinate plane.

How long will it take for Jenny to wrap 7 gifts?
minutes

How many gifts can Jenny wrap in 45 minutes?
gifts

Questions

1. Graph the proportional relationship on the coordinate plane. Then, calculate the unit rate (constant of proportionality). What does it represent?
Every minute, Jeremy writes $\frac{1}{3}$ of an email.

2. Write an equation to represent the relationship between the number of emails sent, x , and the time it takes to write them, y .
Jeremy, an executive assistant, is responsible for sending emails. Every 6 minutes, Jeremy sends 2 emails.

3. How long will it take for Jeremy to write 24 emails?
 $y = \frac{1}{3}(24) = 8$

4. What does the point (6, 8) represent?
It represents that it takes 8 minutes to write 6 emails.

Time Spent (Wrapping)

Gifts Sold

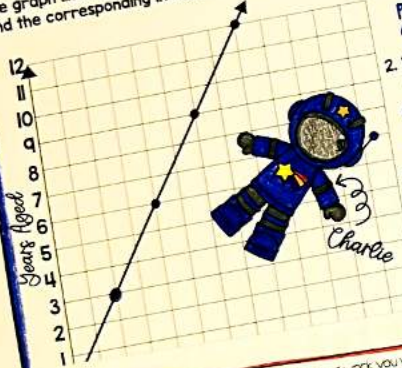
PROPORTIONAL RELATIONSHIPS

The graph of a proportional relationship is a straight line that goes up at a constant rate, and passes through the origin.

$$k = \frac{y}{x}$$

In a proportional relationship, the unit rate is the constant of proportionality, k , between the two variable quantities.

Charlie found himself stranded on a mysterious planet during a space mission. Soon, he noticed that his body was aging at an accelerated rate compared to his time on Earth. The graph illustrates the relationship between the duration Charlie spends on the planet (x) and the corresponding increase in his age (y).



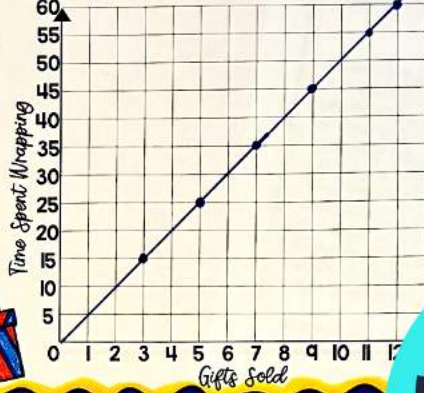
1. What does the point (6, 9) represent? After 6 weeks on planet, Charlie aged 9 additional years.
2. What does the slope represent? Before landing, Charlie is aging at an accelerated rate.
3. Calculate the unit rate of proportionality. What does it represent? $k = \frac{2}{1} = 2$. Every week on the planet, Charlie is aging 2 years.

GIFT WRAPPING

Graph the proportional relationship on the coordinate plane.

1. How long will it take for Jenny to wrap 7 gifts?
2. How many gifts can Jenny wrap in 45 minutes?

Jenny sells and wraps gifts for her customers, and the time it takes to wrap gifts is directly proportional to the number of gifts she sells. For instance, if Jenny sells 5 gifts, it would take her 25 minutes to wrap them.



Guided Notes
2 pages

REAL LIFE APPLICATION

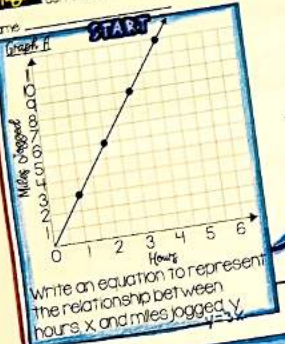


to graph and interpret graphs of proportional relationships with numerous real-life applications. Imagine running a small business where you want to analyze the relationship between the number of employees you hire each week and the total weekly revenue. By plotting the hours worked on the x-axis and the total revenue on the y-axis, you can visually identify trends and make predictions. For instance, plotting the hours worked on the x-axis and the total revenue on the y-axis allows you to see if there's a proportional increase in revenue as you hire more employees. If the graph shows a steady upward trend, it may indicate that further hiring could lead to increased revenue. Conversely, if the trend is flat or downward, it may indicate that further hiring is not cost-effective.

Real-Life Uses
1 page

Maze

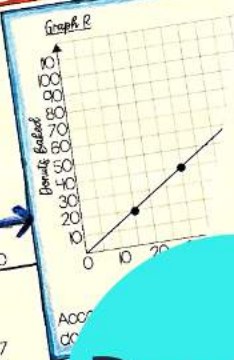
Directions: Begin at the start box and work your way through the maze by following the path with the correct answer until you reach the end box. Circle or highlight the path as you go.



According to Graph A, how many hours will it take to jog 6 miles? **2 hours**

According to Graph A, how many hours will it take to jog 4 miles? **4 hours**

According to Graph R, write an equation to represent the relationship between minutes, x, and donuts baked, y. (Hint: leave your answer in Fraction Form) **$y = \frac{1}{2}x$**



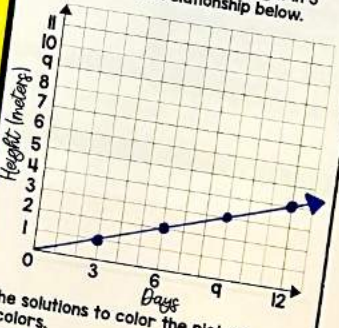
Practice
2 pages

COLOR BY CODE

Color by code using the equations:

- 1. $y = \frac{2}{5}x$
- 2. $y = \frac{3}{5}x$
- 3. $y = x$
- 4. $y = 5x$
- 5. $y = \frac{1}{3}x$

During the space mission, Charlie encountered some space monsters. He learned that the growth rate of a space monster is directly proportional to the time it spends feeding. If a newborn monster grows 1 meter in height in 3 days, graph the relationship below.



- Use the solutions to color the picture.
1. Write an equation to represent the graph below.
 2. What is the height, in meters, of the space monster on day 12? **4**
 2. What is the height, in meters, of the space monster on day 9? **3**
 4. Write an equation to represent the relationship between days, x, and height, y. **$y = \frac{1}{3}x$**
 6. Write an equation to represent the graph below.
 7. Write an equation to represent the graph below.
 8. Write an equation to represent the graph below.

Preview Sample: Discount, Sale Price, Tips

MAZE:

Solve the problems below to escape the maze.

START: If a product originally costs \$120 and is discounted by 30%, what is the sale price?

A pair of boots is on sale for \$45, which is 25% off the original price. What was its original price?

\$72

\$88

\$11.25

If a meal at a restaurant costs \$45 and you leave a 20% tip, how much is the tip?

\$60

\$115.50

A jacket is on sale for 40% off. If the original price was \$142, what is the sale price?

\$16

\$33

A hotel stay cost \$220 per night. If you tip 15% for the service per night, how much is the tip?

\$45

If a board game's original price was \$85 and it's now on sale for 20% off, what is the sale price?

Discounts & Sale Price

Discounts vs Sale Price

Discounts: A discount is a price reduction, or the amount of money saved by the consumer. It's often expressed as a percentage of the original item.

Sale Price: The price of an item after a discount is subtracted from the original price.

Steps

1. Convert the rate from a decimal to a percent.
2. To find the discount, multiply the rate by the original price.
3. To find the sale price, subtract the discount from the original price.

Example: Sale! 25% off!

Original price: \$24

Rate = 0.25

Discount = $(24)(0.25)$

Discount = \$6

Sale Price = $24 - 6 = 18$

Formula: $\text{Discount} = \text{Original Price} \times \text{Rate}$

Calculate the discount & sale price

<p>Sale! 25% off!</p> <p>Original price: \$50</p>	<p>Sale! 10% off!</p> <p>Original price: \$85</p>	<p>Sale! 30% off!</p> <p>Original price: \$1200</p>
---	---	---

CALCULATING TIPS

A tip, in terms of percentages, is an additional amount of money given to service providers, often calculated as a percentage of the total bill, to show appreciation for their services.

HOW TO CALCULATE

1. Determining the percentage of the total you want to tip.
2. Common tip percentages range from 15% to 20% of the total bill.
3. Multiply the total bill amount by the chosen percentage to find the tip amount.

YOU TRY:

a) After a Uber ride, the fare is \$45. If you want to leave a 15% tip, how much is the total cost, including the tip?

Tip: $45 \times 0.15 = 6.75$

$6.75 + 45 = 51.75$

b) After a Uber ride, the fare is \$45. If you want to leave a 15% tip, how much is the total cost, including the tip?

Tip: $28 \times 0.18 = 5.04$

c) At a cafe, the total bill for a meal is \$28. If you want to leave a 18% tip, how much is the tip?

Discounts & Sale Price

Discounts vs Sale Price
Discounts: A discount is a price reduction or the amount of money saved by the consumer. It's often expressed as a percentage of the original item.
Sale Price: The price of an item after a discount is subtracted from the original price.

Steps

1. Convert the rate from a decimal to a percentage.
2. To find the discount, multiply the original price by the discount rate.
3. To find the sale price, subtract the discount from the original price.



Original price: \$24

Rate = 0.25
 Discount = $(24)(0.25) = \$6$
 Sale Price = $24 - 6 = \$18$

Guided Notes
2 pages

CALCULATING TIPS

A tip, in terms of percentages, is an additional amount of money given to service providers, often calculated as a percentage of the total bill, to show appreciation for their services.



HOW TO CALCULATE TIPS

1. Determining the percentage of the total bill you want to tip.
2. Common tip percentages range from 10% to 20% of the total bill.
3. Multiply the total bill amount by the chosen percentage to find the tip amount.

YOU TRY:

b) After a Uber ride, the fare is \$45. If you want to leave a 15% tip, how much is the total cost, including the tip?
 Tip: $45 \times 0.15 = 6.75$
 $45 + 6.75 = 51.75$

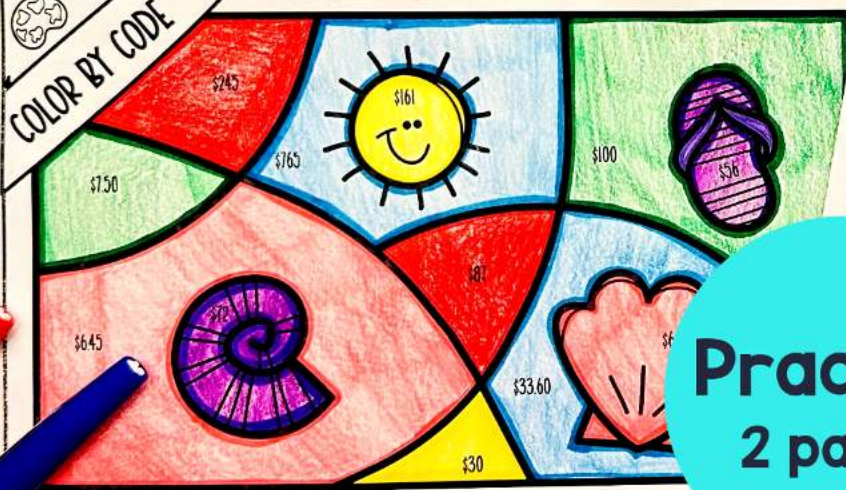
c) At a restaurant, the bill is \$28. If you want to leave a 20% tip, how much is the total cost, including the tip?
 Tip: $28 \times 0.20 = 5.60$
 $28 + 5.60 = 33.60$

Real-Life Uses
1 page

REAL LIFE APPLICATION

-to-day lives, mastering the art of calculating discounts and sale prices isn't just about numbers; it's about making practical decisions that affect our wallets. Think about how being able to figure out the right tip ensures that you work hard to make our meals enjoyable, are rewarded for their service. And when we're hitting those best deals, and allow us to compare between different options, calculate discounts means we can plan our purchases more effectively and make our money go a long way. Although - businesses also rely on these calculations to clear out old stock, and keep their shelves stocked. It might seem like simple math, but understanding discounts and sale prices empowers us all to make the best decisions in our everyday financial experiences.

COLOR BY CODE



Practice
2 pages

MAZE:

Solve the problems below to escape the maze.

A pair of boots is on sale for \$45, which is 25% off the original price. What was its original price?

If a product originally costs \$120 and is discounted by 30%, what is the sale price?

If a meal at a restaurant costs \$45 and you leave a 20% tip, how much is the total cost, including the tip?

A shirt is on sale for 15% off its original price of \$45. What is the sale price?

SOLVE THE PROBLEMS TO COLOR THE PICTURE ABOVE. THEN, FILL IN ANY REMAINING SPACES WITH YOUR DESIGN.

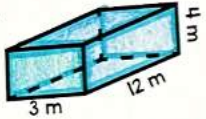
Preview Sample: Lateral & Total Surface Area



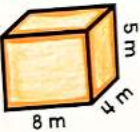
Name: _____
Period: _____
Date: _____

You Try

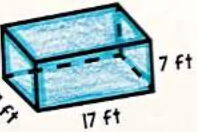
Find the lateral surface area and total surface area

1.  $l=3$ $w=12$ h

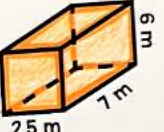
Lateral Surface Area
 $L = Ph$
 $L = (3+3+12)(4)$
 $L = 30(4)$
 $L = 120\text{m}^2$

2.  $l=8$ $w=4$ $h=5$


Lateral Surface Area
 $L = (8+8+4)(5)$
 $L = (24)(5)$
 $L = 120\text{m}^2$

3.  $l=9$ $w=17$ $h=7$

Lateral Surface Area
 $L = (9+9+17)(7)$
 $L = (52)(7)$
 $L = 364\text{ft}^2$

4.  $l=2.5$ $w=7$ $h=9$

Lateral Surface Area
 $L = (2.5+2.5+7)(9)$
 $L = (19)(9)$
 $L = 171\text{m}^2$

5.  $l=11$ $w=6$ $h=9$

Lateral Surface Area
 $L = (11+11+6)(9)$
 $L = (28)(9)$
 $L = 252\text{cm}^2$


SURFACE AREA OF RECTANGULAR PRISM

BASES


In a rectangular prism, the bases refer to the two parallel and congruent rectangular faces that serve as the top and bottom of the prism.

LATERAL FACES

The lateral faces are the four rectangular faces that forms the sides of the prism. These faces are parallel to each other and perpendicular to the bases.



Shade in the bases, and then label the four lateral faces as 1, 2, 3, and 4.



Surface area is always measured in square units.

Formula

Lateral Surface Area

$L = Ph$

P - perimeter of the bases
 h - height

Calculations

$P = 2 + 2 + 11 + 11 = 26\text{ cm}$
 $h = 6\text{ cm}$
 $L = P \cdot h$
 $L = (26)(6)$
 $L = 156\text{ cm}^2$

Total Surface Area

$S = L + 2B$

L - lateral surface area

$L = 156\text{ cm}^2$
 $B = (2\text{ cm})(11\text{ cm}) = 22\text{ cm}^2$
 $S = L + 2B$

Maze

Directions to help the Friendly monster find his friend

88

190

204

180

70

1610

368

74

820

215

240

2222

438

200

Find the lateral surface area

Find the total surface area

Find the total surface area

Find the total surface area

Find the lateral surface area

216

236

574

674

Teachers say that it's their lifesaver.



"Great resource and a different way to take notes. Students were engaged and used their notes to help them with solving problems later."

- Heather P.



"Loved it! Used it for students' interactive notebooks"

· Desiree L.



"I used this resource with students who typically struggle to remain engaged in mathematics. They remained very engaged and didn't hesitate to fix mistakes and complete their work. Great resource!"

- Carissa S.



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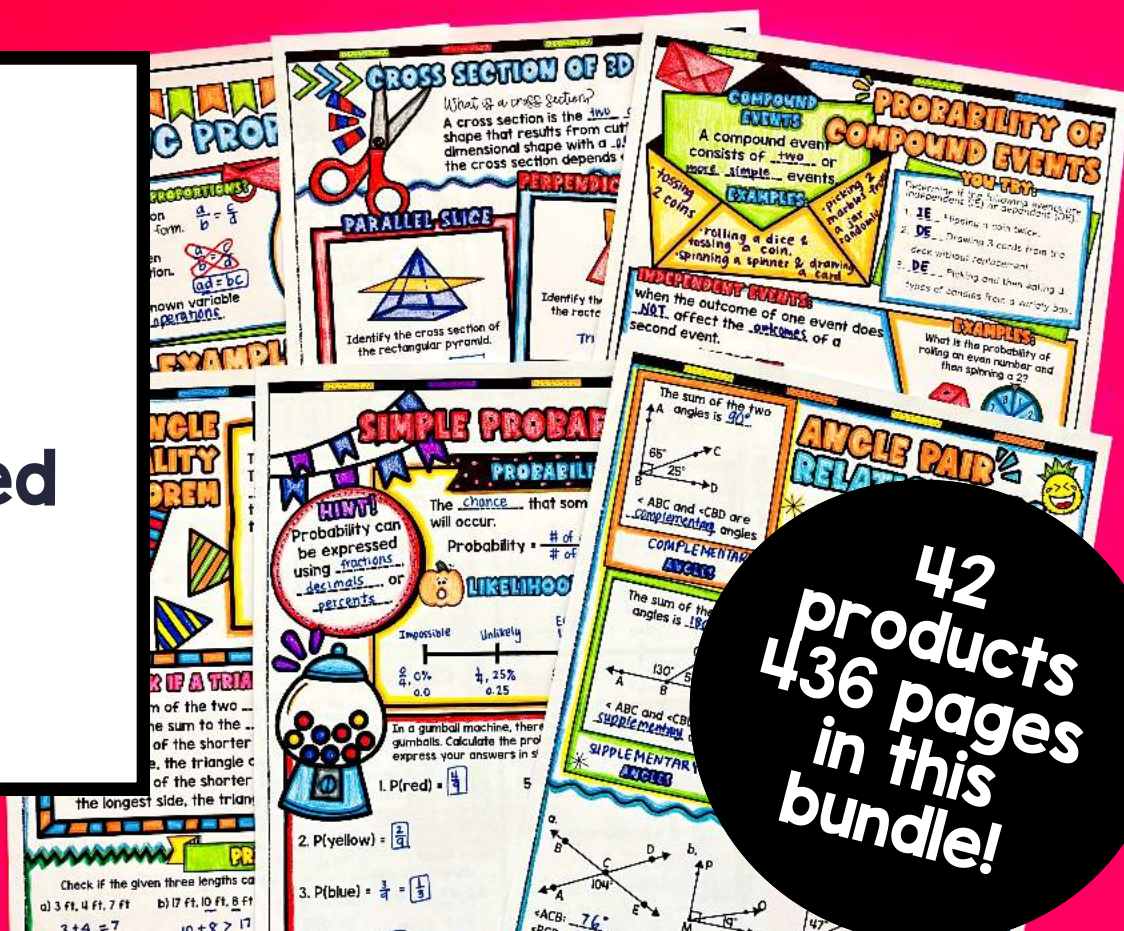
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