



2022-2023

7th Grade Summer Project

Due to your HR teacher by 9/6/22

ELA "One-Pager" Project

Pick of a chapter **FICTION** book of your choice and complete the One-Pager Project.

The One-Pager is just that: written only on the front side of one page!

Only your heading will be on the back of the page. Feel free to use colored pens or you may type it — the more visually appealing, the better! **BE NEAT!** I must be able to read whatever you write. If you type your content, please use 11-point font or larger! An examples of a one-pager is included.

1. **Heading:** Your name, the title of the book, and author on the back of the page.
2. **Title of the novel and the author** should appear **prominently** on the front of the page.
3. **Summary:** Briefly (approximately 250 words) summarize in sequence what you've read. This should convey the gist, main conflict, and highlights of the reading. (You might want to use the plot diagram as a guide.) **Avoid too many details!** It should not be the blurb from the back of the novel nor a "book report"; it needs to be a **true summary**.
4. **Quotations:** As you read, find and copy two to three quotes (this means any wording taken directly from the novel, not just what a character says), that struck you as powerful, interesting, puzzling, important, thought-provoking, informative, confusing, well-written, etc. Be sure to put these in quotation marks! In addition, write one to two sentences per quote about why you chose that particular quote. Be sure to **include the page number where the quote is found**.
5. **Visual Image:** What visual images were created in your mind as you read? This image can be of something that is discussed specifically in the reading, something that the reading reminded you of, or a picture that conveys any idea or feeling you got from the reading. Any sort of **drawing, painting, or graphic representation** is acceptable. In other words, **you are not writing what you imagined; you are showing me what you imagined!**
6. **Vocabulary:** Identify and define (you may use synonyms) ten (10) words or terms that were puzzling or unfamiliar to you. **Give the word, page number, and definition** for these words. Be sure the definition properly defines the word as it is used in your book. If you can't locate ten words that you find puzzling, then find a more difficult book.

Connections: What connections can you make between what you read today and the world outside of the story? There may be a connection to happenings at school, the community or the world, to similar events at other times or places, to other people or problems that you are reminded of, or to other stories/books that you have read. Write **three** insightful, descriptive connections between you and the reading.

It is important that you allow yourself enough time to thoroughly read the novel as well as put effort into your project.

Student Check List

- o project appears on only **one side** of standard 8.5 x 11" or 8.5 x 14" paper (except for **heading** which is on back)
- o written in **ink** or **typed** (no smaller than 11 point font)
- o no more than 250-word **summary**
- o 2-3 **quotations** from novel with page numbers accompanied by an explanation for why you chose each quote
- o **visual image** (graphic, not words!)
- o at least ten (10) **vocabulary words** with definitions/synonyms and page numbers
- o three (3) insightful, descriptive **connections** between you and the reading

Example



ABNEGATION
THE SELFLESS



DAUNTLESS
THE BRAVE



ERUDITE
THE INTELLIGENT



AMITY
THE PEACEFUL



Vocabulary

- ✓ **Candor** – (p. 3) The quality of being open and honest in expression
 - ✓ **Antagonistic** – (p.6) Showing or feeling active opposition or hostility toward someone or something
 - ✓ **Placid** – (p. 4) Calm and peaceful
 - ✓ **Apitude** – (p. 2) A natural or a acquired capacity or ability
 - ✓ **Vanity** – (p. 1) Excessive pride in one's appearance, achievements, etc.
 - ✓ **Reprimand** – (p. 2) Rebuke (someone) esp. officially
 - ✓ **Abnegation** – (p. 3) Renouncing or reciting something
 - ✓ **Amity** – (p. 5) Friendship, peaceful, harmony
 - ✓ **Erudite** – (p. 5) Having or showing great knowledge or learning
- Dauntless** – (p. 4) Not to be daunted

"This place warped and ruined him, and I don't care if that me a stiff, I don't care, I don't care. I almost shout."
(p.310)

This quote shows how difficult being in their world would be.

This is a complicated but interesting story about how people are separated by certain characteristics. This story is happy, sad, and runs every emotion. The main character is Tris, a 16 year old girl who is making hard decisions about leaving her family or joining a faction. Another main character is Four (Tobias) her instructor. The story takes place in Chicago, Illinois in a future time.

Tris takes a test and she finds is Divergent. Being Divergent is very dangerous because Dauntless and Erudite want them dead. Nobody can find out about her or her life will be in danger. She chooses to join the Dauntless faction, indeed the most dangerous. She is the weakest of all initiates. She is from the Abnegation faction and they help prepare her to become braver by her being selfless. She doesn't look strong on the outside but mentally she is the strongest. She finds one of the instructors interesting; Four. He reveals his real name, Tobias, only to her. So she watches and learns from him. To become a member of the Dauntless, she must go through initiation. Stage 1 is about physical ability, during this stage you have to fight, learn to use a gun and knife throwing. Stage 2 is about mental ability, during this stage you go into your deepest fears and live them and confront them. Stage 3 is both of the first two stages combined. She isn't the best at stage one. But she comes through to be ranked #1 in stage 2. But that causes more trouble for her because an initiate Peter wants revenge for being #2. He nearly kills her with the help of Drew and Al. But Four comes and saves her. As time passes it is time for the final test in stage 3, the only way for her to stay there and become a dauntless. After the test is over she gets ranked #1, and gets to stay in the dauntless compound. That night the dauntless inject everyone which they think is a tracking device. But really it is a mind control system, created by the erudite. She finds her parents and her brother. Both parents get shot by dauntless soldiers. While she is running she gets shot in the shoulder. She finds Peter along the way and shoots him in the arm. Takes him with Caleb, Four, and Marcus. They all start thinking of possible places to go hide out, now that they are wanted. Their first thought is to go to the Amity headquarters. So they jump on a train to Amity headquarters. While on the train she reflects on the day she just had. Her conclusion is that all she has left is her brother and Four. She also wonders if the Amity will let them into the compound, just because they are the nicest of all doesn't mean they will let them in. I would recommend this book because it was a very interesting story about a weak girl

CONNECTIONS

In the book Tris has a brother that is nice, smart, and does things for other people. I also have a brother that has all of those qualities.

In Divergent everyone is divided into factions. The people in the faction almost never are with people outside their faction. That is similar to school because people form into cliques, that don't usually interact with each other.

When Tris thinks of her family she gets very upset and breaks down. That is just like when a 18 year old leaves home for the first time, and they don't see their family for a long time.

"We believe in ordinary acts of bravery, in the courage that drives one person to stand up for another." (p.206)

This quote shows how strong Tris can be. even though she is from Abnegation – which people who are selfless are the bravest.

7th Grade Science Choice Board

<p>CREATE AN ACROSTIC POEM USING ONE OF THE FOLLOWING VOCABULARY WORDS:</p> <p>HOMEOSTASIS PHOTOSYNTHESIS OR OSMOSIS</p>	<p>Make a Cartoon Strip about the organelles in a cell. (Nucleus, Mitochondria, Cell Membrane or Cell Wall, Vacuole) You must have at least 4 panels in your cartoon.</p>	<p>Compare and Contrast Photosynthesis and Cellular Respiration. Use any compare and contrast tool you like (ex. Venn Diagram, T-Chart, etc.)</p>
<p>Design your own Game using at least 10 vocabulary words you've learned so far in Science. Outline the rules, the point system, and the objective for the game. (You may use any resources to design your game like construction paper, game pieces, index cards, etc.)</p>	<p>WILD Student Choice (Be Creative!!)</p>	<p>Do a GRAFFITI Drawing of a vocabulary word of your choice. Use an entire piece of blank paper. Incorporate it's meaning into your drawing somehow. USE COLOR!</p>
<p>Make a crossword puzzle using at least 10 science terms you've learned so far. Provide an answer key.</p>	<p>Make a RAP or SONG about: Levels of Organization or about Photosynthesis and Respiration. Must have at least 3 verses and a chorus.</p>	<p>Write a story pretending you are a molecule of $C_6H_{12}O_6$, and explain how you (the molecule of $C_6H_{12}O_6$) travel through photosynthesis and then cellular respiration.</p>

Pick any 3 activities from the choice board and turn in with your summer project packet.

7th Grade Civics

The Bill of Rights One-Pager

You'll be designing a Bill of Rights One-Pager, a single page of artwork that will represent each of the first ten Amendments of the United States Constitution.

Directions:

- *Research each Amendment
- *Briefly Describe and illustrate each Amendment of the Bill of Rights in the boxes provided. Make sure your images represent the main idea behind each Amendment.
- *Neatness counts! Take your time with this; do it well!
- *Be creative! You can draw by hand (using lots of color), paste in images from the internet or magazines, or use quotes or example scenarios. Make your One-pager attention grabbing!

Here is an example:



Name:

Class:

First Amendment

Second Amendment

Third Amendment

Fourth Amendment

Fifth Amendment

THE BILL OF RIGHTS

Sixth Amendment

Seventh Amendment

Eighth Amendment

Ninth Amendment

Tenth Amendment

Adding and Subtracting Whole Numbers and Decimals

Find $26.9 + 5.47$.*Line up the decimal points.*

$$\begin{array}{r}
 \downarrow \quad \quad \uparrow \uparrow \\
 26.9 \quad 26.90 \leftarrow \text{Write zeros to} \\
 + 5.47 \quad + 5.47 \quad \text{show place value.} \\
 \hline
 32.37 \\
 \uparrow \text{Place decimal point} \\
 \text{in answer.}
 \end{array}$$

Find $19 - 3.61$.*Line up the decimal points.*

$$\begin{array}{r}
 \downarrow \quad \quad \uparrow \uparrow \uparrow \\
 19.00 \quad 19.00 \leftarrow \text{Write zeros to} \\
 - 3.61 \quad - 3.61 \quad \text{show place value.} \\
 \hline
 15.39 \\
 \uparrow \text{Place decimal point} \\
 \text{in answer.}
 \end{array}$$

Find each sum or difference.

1.
$$\begin{array}{r} 6.48 \\ + 25.70 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 82.00 \\ - 6.18 \\ \hline \end{array}$$

3.
$$\begin{array}{r} 256 \\ + 44.8 \\ \hline \end{array}$$

4.
$$\begin{array}{r} 5 \\ - 1.5 \\ \hline \end{array}$$

5.
$$\begin{array}{r} 2.3 \\ + 258 \\ \hline \end{array}$$

6.
$$\begin{array}{r} 90 \\ - 4.68 \\ \hline \end{array}$$

7.
$$\begin{array}{r} 35.7 \\ + 199.37 \\ \hline \end{array}$$

8.
$$\begin{array}{r} 6.08 \\ - 5.7 \\ \hline \end{array}$$

9. $844 - 566 =$ _____ 10. $17 - 9.9 =$ _____ 11. $51.7 + 35 + 719.44 =$ _____

12. $1,234 - 408 =$ _____ 13. $9.56 - 1.8 =$ _____ 14. $1.7 + 213 + 4.367 =$ _____

15. Felice's rain gauge showed these totals: April, 3.52 in.; May, 11 in.; June, 8.6 in. Find the total rainfall for the three months.
- _____

16. In 1896, Thomas Burke won the Gold Medal in the Olympic 100-m run with a time of 12 sec. In 1984, Carl Lewis won the medal with a time of 9.99 sec. How much faster did Lewis run the race than Burke did?
- _____

Multiplying and Dividing Whole Numbers and Decimals

Find 1.2×0.06 .Find $130.5 \div 29$.

Count the number of decimal places
in both factors. The total is the number
of decimal places in the product.

$$\begin{array}{rcl} 1.2 & \leftarrow & 1 \text{ decimal place} \\ \times 0.06 & \leftarrow & + 2 \text{ decimal places} \\ \hline 0.072 & \leftarrow & 3 \text{ decimal places} \end{array}$$

Estimate to place the first digit.
Place the decimal point in the quotient.

$$\begin{array}{r} \text{Think: } 30 \overline{)120} \quad \begin{array}{r} 4.5 \\ 29 \overline{)130.5} \\ \underline{116} \\ 145 \\ \underline{145} \\ 0 \end{array} \end{array}$$

Find each product or quotient.

$$\begin{array}{r} 4 \\ 1. \quad 35 \\ \times 19 \\ \hline 315 \\ 35 \\ \hline \end{array}$$

$$\begin{array}{r} 43 \\ \times 1.2 \\ \hline \end{array}$$

$$\begin{array}{r} 1. \\ 3. \quad 4 \overline{)6.28} \\ \underline{4.00} \\ 2.28 \end{array}$$

$$4. \quad 23 \overline{)123.28}$$

$$5. \quad 200 \times 44 = \underline{\hspace{2cm}} \quad 6. \quad 1,488 \div 24 = \underline{\hspace{2cm}} \quad 7. \quad 11.7 \times 0.44 = \underline{\hspace{2cm}}$$

$$8. \quad 2.5 \times 0.25 = \underline{\hspace{2cm}} \quad 9. \quad 0.91 \times 8 = \underline{\hspace{2cm}} \quad 10. \quad 1,222 \div 47 = \underline{\hspace{2cm}}$$

$$11. \quad 203.5 \div 55 = \underline{\hspace{2cm}} \quad 12. \quad 21.6 \times 12 = \underline{\hspace{2cm}} \quad 13. \quad 174.3 \div 30 = \underline{\hspace{2cm}}$$

$$14. \quad 401.8 \times 82 = \underline{\hspace{2cm}} \quad 15. \quad 96.46 \div 26 = \underline{\hspace{2cm}} \quad 16. \quad 29.97 \div 9 = \underline{\hspace{2cm}}$$

17. Diego and his 3 friends bought 2 pizzas for \$7.99 each.
Each person paid the same amount. How much did each
person pay for the pizzas? _____

Name _____

Comparing and Ordering Decimals

P 2-2

Use $>$, $<$, or $=$ to compare each pair of numbers.

1. 656.07 656.23

2. 73.42 72.56

3. 0.01 0.10

4. 7.999 7.998

Order from least to greatest.

5. 639.087, 639.078, 638.088

6. 0.0909, 0.0989, 0.0999

7. 19.235, 19.23, 19.240, 19.2353

8. Order the lung volumes from least to greatest.

Animal (adult)	Lung Volume (in quarts)
Cat	0.328
Cow	10.565
Mouse	0.001
Whale	105.65

9. Which animal has a lung volume that is greater than a cow's?

10. Which two animals have the closest lung volume?

Test Prep

11. Which decimal is greater than 3.33 but less than 3.34?

A. 2.3349

B. 3.305

C. 3.329

D. 3.336

12. **Writing in Math** Explain how to find a number that is between 4.9 and 4.95.

Problem Solving: Analyze Word Problems

<p>A window display had 9 sweaters. A sign said, "All sweaters \$19.99." What was the total value of all the sweaters in the display?</p>	<p>Operation: Each sweater was worth \$19.99. There were 9 sweaters. I will use multiplication: $\begin{array}{r} \\$19.99 \\ \times \quad 9 \\ \hline \\$179.91 \end{array}$</p> <p>Solution: The sweaters were worth \$179.91.</p>
---	--

Write which operation you would use to solve each problem. Then solve.

- For her book report, Annette plans to read a **481-page** book in **13 days**.
How many pages must she read per day? _____
- Georgia bought three birthday presents for her brother, priced at \$17, \$9.95, and \$22.50.
How much did she spend? _____
- Members of the Drama Club have raised \$586.40 of their \$2,000 goal.
How much do more do they need to raise? _____
- Rene paid \$28 for a set of 32 commemorative stamps for her collection.
What was the cost per stamp? _____
- At a gas station, Mr. Carrington bought 12.8 gallons of gas priced at \$1.15 per gallon.
How much did his purchase cost? _____
- Vanessa bought 3 folders. Each folder was \$0.79.
She paid with a \$5 bill.
How much change did she get back? _____

GCF and LCM

Find the GCF and LCM of 16 and 24.

Greatest Common Factor (GCF) Factors of 16: 1, 2, 4, 8, 16 Factors of 24: 1, 2, 3, 4, 6, 8, 12, 24 The common factors of 16 and 24 are 1, 2, 4, and 8. The greatest common factor is 8.	Least Common Multiple (LCM) Multiples of 16: 16, 32, 48, 64, 80, 96 Multiples of 24: 24, 48, 72, 96, 120 Common multiples of 16 and 24 are 48 and 96. The least common multiple is 48.
--	---

Complete.

1. Find the GCF and LCM of 8 and 12.

Factors of 8: _____

Factors of 12: _____

Multiples of 8: _____

Multiples of 12: _____

GCF = _____

LCM = _____

Find the GCF and LCM of each pair of numbers.

2. 9 and 12

GCF = _____

LCM = _____

3. 12 and 15

GCF = _____

LCM = _____

4. 20 and 30

GCF = _____

LCM = _____

5. 15 and 20

GCF = _____

LCM = _____

6. 24 and 32

GCF = _____

LCM = _____

7. 16 and 30

GCF = _____

LCM = _____

8. An amusement park gave a free hat to every 12th customer and a free ride pass to every 30th customer. What number customer will be the first to get both a free hat and ride pass? _____

Adding and Subtracting Fractions and Mixed Numbers

Add $\frac{7}{10} + \frac{1}{6}$.

<p><i>Write equivalent fractions.</i></p> $\begin{array}{r} \frac{7}{10} = \frac{21}{30} \\ + \frac{1}{6} = \frac{5}{30} \\ \hline \end{array}$ <p>The LCD of 10 and 6 is 30.</p>	<p><i>Add the fractions.</i></p> $\begin{array}{r} \frac{7}{10} = \frac{21}{30} \\ + \frac{1}{6} = \frac{5}{30} \\ \hline \frac{26}{30} \end{array}$	<p><i>Simplify.</i></p> $\begin{array}{r} \frac{7}{10} = \frac{21}{30} \\ + \frac{1}{6} = \frac{5}{30} \\ \hline \frac{26}{30} = \frac{13}{15} \end{array}$
---	--	---

Subtract $5\frac{1}{4} - 2\frac{1}{2}$.

<p><i>Write equivalent fractions.</i></p> $\begin{array}{r} 5\frac{1}{4} = 5\frac{1}{4} \\ - 2\frac{1}{2} = 2\frac{2}{4} \\ \hline \end{array}$ <p>The LCD of 2 and 4 is 4.</p>	<p><i>Regroup. Subtract the fractions.</i></p> $\begin{array}{r} 5\frac{1}{4} = 5\frac{1}{4} = 4\frac{5}{4} \\ - 2\frac{1}{2} = 2\frac{2}{4} = 2\frac{2}{4} \\ \hline 2\frac{3}{4} \end{array}$	<p><i>Subtract the whole numbers.</i></p> $\begin{array}{r} 5\frac{1}{4} = 5\frac{1}{4} = 4\frac{5}{4} \\ - 2\frac{1}{2} = 2\frac{2}{4} = 2\frac{2}{4} \\ \hline 2\frac{3}{4} \end{array}$
---	---	--

Find each sum or difference.

1. $2\frac{3}{8} = 2\frac{\quad}{24}$
 $+ 4\frac{1}{6} = 4\frac{\quad}{24}$

2. $7\frac{1}{5} = 6\frac{\quad}{5}$
 $- 2\frac{4}{5} = 2\frac{\quad}{5}$

3. $3\frac{1}{5} =$
 $+ 4\frac{1}{6} =$

4. $\frac{2}{3} + \frac{1}{6} =$

5. $\frac{7}{12} - \frac{1}{2} =$

6. $\frac{7}{8} + \frac{7}{10} =$

7. $\frac{4}{5} - \frac{3}{4} =$

8. $2\frac{7}{8} - 1\frac{1}{4} =$

9. $2\frac{5}{6} + 1\frac{3}{4} =$

10. $6\frac{5}{12} - 3\frac{5}{8} =$

11. $2\frac{1}{5} + 3\frac{9}{10} =$

12. $4\frac{5}{8} - 3\frac{3}{4} =$

13. Randy had two skateboards that together measured $5\frac{1}{3}$ ft.

One skateboard was $2\frac{3}{5}$ ft. How long was the other? _____

Multiplying and Dividing Fractions and Mixed Numbers

Find $1\frac{3}{5} \times \frac{5}{6}$.

Rewrite $1\frac{3}{5}$ as an improper fraction. $\begin{array}{r} + \\ 1 \rightarrow \frac{3}{5} = \frac{8}{5} \\ \times \end{array}$	Multiply numerators. Multiply denominators. $\frac{8}{5} \times \frac{5}{6} = \frac{40}{30}$	Simplify. $\frac{40}{30} = \frac{40 \div 10}{30 \div 10} = \frac{4}{3} = 1\frac{1}{3}$
--	--	---

Find $\frac{4}{9} \div 2\frac{2}{3}$.

Rewrite $2\frac{2}{3}$ as an improper fraction. $\begin{array}{r} + \\ 2 \rightarrow \frac{2}{3} = \frac{8}{3} \\ \times \end{array}$	Rewrite as a product using the reciprocal . $\frac{4}{9} \div \frac{8}{3} = \frac{4}{9} \times \frac{3}{8}$ <p style="text-align: center;">↑ ↑ Interchange numerator and denominator.</p>	Multiply and simplify. $\begin{aligned} \frac{4}{9} \times \frac{3}{8} &= \frac{4 \times 3}{9 \times 8} \\ &= \frac{12}{72} \\ &= \frac{1}{6} \end{aligned}$
--	---	---

Find each product or quotient.

1. $\frac{4}{5} \times \frac{3}{8} = \frac{\quad}{40} = \underline{\hspace{1cm}}$

2. $\frac{2}{7} \div \frac{1}{3} = \frac{2}{7} \times \frac{3}{\quad} = \underline{\hspace{1cm}}$

3. $\frac{6}{7} \times \frac{7}{12} = \underline{\hspace{1cm}}$

4. $\frac{4}{5} \div \frac{2}{3} = \underline{\hspace{1cm}}$

5. $\frac{2}{5} \times \frac{1}{4} = \underline{\hspace{1cm}}$

6. $\frac{7}{8} \div \frac{14}{3} = \underline{\hspace{1cm}}$

7. $1\frac{3}{8} \times \frac{8}{11} = \underline{\hspace{1cm}}$

8. $7 \div 2\frac{1}{3} = \underline{\hspace{1cm}}$

9. $5\frac{2}{5} \times \frac{5}{9} = \underline{\hspace{1cm}}$

10. $6\frac{1}{4} \div 3\frac{3}{4} = \underline{\hspace{1cm}}$

11. $1\frac{1}{2} \times 1\frac{1}{3} = \underline{\hspace{1cm}}$

12. $2\frac{3}{4} \div 10\frac{1}{2} = \underline{\hspace{1cm}}$

13. Joy had two square coasters. The total length around both coasters was $32\frac{1}{2}$ inches. How long was each side? _____

Problem Solving: Analyze Strategies

Gem watches first sold in 1995. The price was lowered \$5 in 1996, halved in 1997, and raised \$2 in 1998. If the 1998 price was \$9, how much did the watches sell for in 1995?

Year	What Happened	Conclusion
1998	Price raised \$2 to \$9.	Price was $\$9 - \$2 = \$7$.
1997	Price halved to \$7.	Price was $\$7 \times 2 = \14 .
1996	Price lowered \$5 to \$14.	Price was $\$14 + \$5 = \$19$.

Solution: The watches sold for \$19 in 1995.

Problem Solving Strategies

- Use Objects/Act It Out
- Draw a Picture
- Look For a Pattern
- Guess and Check
- Make an Organized List
- Make a Table
- Solve a Simpler Problem
- Work Backward

Use any strategy to solve.

1. After Marshall's alarm went off, he spent $\frac{3}{4}$ hr getting ready for school. He walked $\frac{1}{6}$ hr to the bus stop, waited $\frac{1}{12}$ hr, rode $\frac{1}{4}$ hr, and arrived at school at 8:30 A.M. What time did his alarm go off? _____
2. Jill paid \$36 for calendars marked down \$5 apiece from the original price. If she had bought them at the original price, she could have gotten 5 fewer calendars. How many calendars did she buy? _____
3. Cody took his dog, cat, hamster, and parakeet to the vet's office. The vet checked the hamster before the cat, the dog after the parakeet, and the cat before the parakeet. Which pet was checked third? _____
4. Anna, Gina, and Ted divided up a box of post cards. Anna took one-fourth of the cards. Gina took half of what remained. Ted took the remaining 6 cards. How many cards were in the box? _____
5. A vending machine accepted any combination of nickels, dimes, and quarters that added to \$0.40. How many different combinations of coins were possible? _____

Ratio and Proportion

You can use **ratios** to compare two quantities.



1 cat to 3 dogs

You can write ratios as:

words 1 to 3

with a colon 1:3

as a fraction $\frac{1}{3}$

A statement that two ratios are equal is called a **proportion**.



$$\frac{1 \text{ cat}}{3 \text{ dogs}} = \frac{2 \text{ cats}}{6 \text{ dogs}}$$

$$\frac{1}{3} = \frac{2}{6} \text{ is a proportion.}$$

Write each ratio. Use words, a colon, or a fraction.

1. Write the ratio of stars to planets.



2. An orchestra has 9 brass players and 10 woodwind players. Write the ratio of brass to woodwinds.

Tell if the ratios are a proportion. Write yes or no.

3. $\frac{1}{2}$ $\frac{8}{16}$ _____ 4. $\frac{2}{3}$ $\frac{6}{8}$ _____ 5. $\frac{4}{10}$ $\frac{6}{15}$ _____ 6. $\frac{4}{14}$ $\frac{6}{20}$ _____

7. The ratio of boys to girls in Weekend Volunteers is 5 to 6.
There are 24 girls in the group. How many boys are there? _____

8. The ratio of the width of a photo to its height is 4 to 5.
The photo's width is 12 in. What is its height? _____

9. The Ravens won 9 baseball games for every 4 that they lost.
If they lost 28 games, how many games did they win? _____

10. Carlos received 84 votes. That was 3 of every 7 votes cast in the Class President election. How many votes were cast? _____

Decimals, Fractions, Percents

Find 20% of 25.

Find 20% of 25.

Using a fraction:

Write 20% as a fraction.

$$20\% = \frac{20}{100} = \frac{20 \times 1}{20 \times 5} = \frac{1}{5}$$

$$\text{Multiply: } \frac{1}{5} \times 25 = 5$$

Using a decimal:

Write 20% as a decimal.

$$20\% = 0.20$$

$$\text{Multiply: } 0.20 \times 25 = 5$$

1. Find 25% of 60.

2. Find 60% of 20.

Using a fraction:

$$25\% = \frac{25}{100} = \frac{25 \times}{25 \times} = \frac{\quad}{\quad}$$

$$\text{Multiply: } \frac{\quad}{\quad} \times 60 = \quad$$

Using a decimal:

$$60\% = 0.\quad$$

$$\text{Multiply: } 0.\quad \times 20 = \quad$$

Write the percent as a fraction.

$$3. 75\% = \frac{\quad}{\quad} \quad 4. 50\% = \frac{\quad}{\quad} \quad 5. 40\% = \frac{\quad}{\quad} \quad 6. 10\% = \frac{\quad}{\quad}$$

Write the percent as a decimal.

$$7. 94\% = \quad \quad 8. 13\% = \quad \quad 9. 30\% = \quad \quad 10. 2\% = \quad$$

Find the percent of each. You may use any method.

11. 5% of 30 = _____

12. 25% of 16 = _____

13. 90% of 35 = _____

14. 70% of 25 = _____

15. 14% of 62 = _____

16. 80% of 200 = _____

17. Last weekend, Raptor Club members spotted 160 hawks. This weekend they saw 70% as many as they saw last weekend. How many hawks did they see this weekend? _____

18. Only 40% of the Raptor Club's members returned the club's hawk survey. The club has 65 members. How many took part in the survey? _____

Order of Operations

P 1-8

Evaluate each expression.

1. $3 + 4 \times 7$

2. $88 - 6 \times 6$

3. $8 \times 2 + 7 \times 3$

4. $(5 + 9) + 3 \times 8$

5. $(6 + 3^2) + 5$

6. $9^2 - (7 \times 5) + 3$

7. $48 \div 2 + 6$

8. $26 \div (5 + 8) + 1$

9. $18 + 3 \times (6 \div 2)$

10. **Reasoning** What operation would you perform *last* in this problem: $(2 \times 3) + (7 \times 2)$?

Use parentheses to make each number sentence true.

11. $10 + 5 \times 4^2 \div 2^3 = 20$

12. $124 - 6 \times 0 + 15 = 34$

13. $10^2 - 10 + 3 = 93$

14. $7 + 5 \times 3 \div 3 = 12$

15. Mr. Miller's sixth-grade class went on a field trip to hear the symphony perform. Their seats were grouped in the following ways: 2 groups of 3 seats; 3 groups of 4 seats, 4 groups of 2 seats, and 1 seat (for Mr. Miller). Write a number sentence to calculate how many students went on the field trip.
- _____
- _____

Test Prep

16. Evaluate the expression $(4^2 - 4) + 6 \div 2$.

A. 4

B. 9

C. 12

D. 15

17. **Writing in Math** Suppose you had to evaluate $9^2 + 5 \times 4$. Tell the order in which you would compute these numbers.
- _____
- _____