Grades 7 & 8

Required Religion Book:

Saint Faustina Kowalska, Messenger of Mercy by Susan Helen Wallace - Pauline Books and Media

Required Language Arts/Literature Book:

Woodsong by Gary Paulsen

Students, you must choose at least one nonfiction book, one fiction book, and another book of his/her choice from the list below. You are encouraged to read more. If a title comes from a series, you can read any book within the series. A project related to summer reading will be assigned the first week of school.

Grades 7 & 8 Non Fiction

Brown, James Daniel - *The Boys on the Boat* (young adult adaptation)

Freedman, Russell - *Abraham Lincoln and Frederick Douglass*, *Freedom Walkers* or/and *The Voice that Challenged a Nation*

Hillenbrand, Laura - *Unbroken* (young adult adaptation)

Kamkwamba, William - *The Boy Who Harnessed the Wind (*young adult

adaptation) Kean, Sam - *The Disappearing Spoon (*young adult adaptation)

Murphy, Jim - *An American Plague, Blizzard, The Great Fire*, *Invincible Microbe* and/or *Truce*

Sheinkin, Steve - *Bomb: The Race to Build and Steal the World's Most Dangerous Weapon*

Shetterly, Margot Lee - *Hidden Figures* (young adult adaptation)

Stone, Tanya Lee - *Courage Has No Color; The True Story of the Triple Nickles*, *Girl Rising: Changing the World One Girl at a Time* and/or *Almost Astronauts: 13 Women Who Dared to Dream*

Sundem, Garth - *Real Kids, Real Stories, Real Change: Courageous Actions Around the World*

Voices from the Second World War: Stories of War as Told to Children of Today

Grades 7 & 8 Fiction

Adams, Richard – *Watership Down*

Alexander, Kwame - *The Crossover* series

Alexander, Kwame - Solo

Anderson, Laurie Halse - *The Seeds of America* series

Barnhill, Kelly - *The Girl Who Drank the Moon*

Craft, Jerry - *New Kid* (graphic novel, Newbery Medal)

Crane, Stephen - *The Red Badge of Courage*

Creech, Sharon - *Chasing Red Bird*

Creech, Sharon - *Walk Two Moons*

Draper, Sharon M - *Stella by Starlight*

Ellis, Deborah - *The Breadwinner* series

George, Jean Craighead - *The Talking Earth*

Gidwitz, Adam - *The Inquisitor's Tale*

Hiranandai, Veera - *The Night Diary*

Kadohata, Cynthia - *A Place to Belong*

Kelly, Jacqueline - *The Calpurnia Tate* series

L'Engle, Madeleine - A Wrinkle In Time

Mikaelsen, Ben - *Touching Spirit Bear*

Montgomery, Lucy Maud - *Anne of Green Gables*

Gables Oppel, Kenneth - *Half Brother*

Paulsen, Gary - *Hatchet* series

Rhodes, Jewell Parker - *Towers Falling*

Roy, Jennifer and Ali Fadhil - *Playing Atari with Saddam Hussein*

Hussein Schmidt, Gary - Orbiting Jupiter

Spinelli, Jerry - The Warden's Daughter

Smith, Roland - *I, Q* series

Stewart, Trenton Lee - *The Mysterious Benedict Society* series

Wolk, Lauren - *Beyond the Bright Sea* and/or *Wolf Hollow*

Grade 8 Supply List

For classroom:
1 package of loose leaf paper
1 packages of glue sticks
4 boxes of tissues
3 packages of sanitizing wipes
4 rolls of paper towels
1 box of Ziploc sandwich bags
1 large bottle of hand sanitizer

For students:
1 (3 ring) binder w/ loose leaf paper
6 composition notebooks
6 pocket folders (any color)
6 jumbo stretchy book covers (any color)
6 packages of index cards
1 5 subject notebook (200 pages) with tab dividers

1 Ziploc bags or file box for storage of cards
Pencil case - pouches preferred
4 Dozen Dixon Ticonderoga #2 Pencils
6 Blue Ballpoint Pens (non-clicking)
1 scissors 7"
1 Crayola 12 Count Washable Markers, Wide Tip
1 Crayola 12 Count Washable Markers, Fine Tip
1 Crayola 24 Count colored pencils
1 Crayola 24 Box crayons
1 package whiteboard markers (5)
1 package highlighters
1 Elmer's School Glue 4oz
1 Texas Instruments TI-30XIIS Scientific Calculator   1
1 Pair wired earbuds with standard 2.5mm plug for use with Chromebooks (kept at school)

Other supplies needed
Bible - *St. Joseph N.C.V. New Testament Vest Pocket Edition Youth Catechism of Catholic Church (new students only)*
Rosary Beads

At home:
1 Package of filler paper and printer paper
Ruler and protractor
Working printer with ink

Name: _____

MATHEMATICS

SUMMER

PRACTICE

PACKET

GRADE 8

Directions: *Please complete the attached worksheets over the summer and bring the packet to school on the first day.*

SHOW ALL YOUR WORK ~ NO WORK ~ NO CREDIT *(if more space is needed for your work, attach an extra paper, clearly numbered with page and example number)*

DO NOT USE A CALCULATOR

Place Value

Write the value of the underlined digit.

1. 7<u>3</u>8

_____

2. 91<u>7</u>

_____

3. 24<u>7</u>2

_____

4. 6<u>5</u>24

_____

5. 1<u>5</u>,063

_____

6. 73,9<u>6</u>1

_____

7. 1<u>6</u>9,364

_____

8. <u>2</u>22,222

_____

9. 789,<u>0</u>52

_____

10. 6,7<u>3</u>2,158

_____

Name the value of the greatest place.

11. 10^4

_____

12. 10^9

_____

13. 10^3

_____

14. 10^{-7}

_____

15. 10^{-2}

_____

16. 10^{-5}

_____

Write the number in standard form.

17. $(4 \times 10^8) + (3 \times 10^7) + (8 \times 10^6) + (9 \times 10^5) + (7 \times 10^4) + (2 \times 10^3) + (1 \times 10^2) + (1 \times 10^1) + (1 \times 10^0)$

_____

18. $(1 \times 10^{10}) + (7 \times 10^9) + (5 \times 10^8) + (3 \times 10^7) + (6 \times 10^6) + (0 \times 10^5) + (8 \times 10^4) + (4 \times 10^3) + (2 \times 10^2) + (0 \times 10^1) + (1 \times 10^0)$

_____

Write the number in expanded form.

19. 8,391,901,452

_____

20. 16,572,800,321

_____

Name _____

Estimation: Rounding and Compatible Numbers

Round each number to the greatest value.

1. 17   **2.** 36   **3.** 82   **4.** 55

_____   _____   _____   _____

Round each decimal number to the greatest nonzero place.

5. 2.679   **6.** 7.053   **7.** 9.320   **8.** 3.51

_____   _____   _____   _____

Use rounding to estimate the decimal sum.

9.	**10.**	**11.**
4.362	73.89	37.06
17.649	8.06	15.62
+ 8.539	+ 22.10	+ 6.10

12.	**13.**	**14.**
0.362	98.37	8.301
13.346	6.08	0.027
+ 5.892	+ 0.122	+ 0.092

Use compatible numbers to estimate decimal quotients.

15. 5)3.25   **16.** 9)8.72   **17.** 64)4.2438

_____   _____   _____

> **Remember:**
> Think of nearby numbers that are easy to compute with mentally. Then divide.

18. 3.7)6.936   **19.** 19)94.16   **20.** 3.86)19.4

Estimate the answer. Name the method you used.

21.	**22.**	**23.**
16.32	1.396	5.028
4.39	18.031	35.570
+ 43.74	+ 32.529	+ 71.332

24. 13)42.56   **25.** 5.673)1208.37   **26.** 802)426.9

_____   _____   _____

Compare and Order Numbers (Decimals)

Use <, =, or > to compare the decimals.

1. 1.876 ◯ 1.097

2. 0.0019 ◯ 0.0019

3. 0.0456 ◯ 0.0765

4. 2.012 ◯ 3.0017

5. 0.5011 ◯ 0.0018

6. 0.0341 ◯ 0.0341

Use place value to order the decimals from greatest to least.

7. 0.6231; 0.6010; 1.003; 0.6229

_____

> **Remember:**
> Line up the decimal points.
> Compare the digits in each place,
> starting with the greatest place value.

8. 0.0017; 0.0143; 1.0011; 0.0092

_____

9. 2.485; 2.472; 2.501; 1.982

_____

10. 0.0004; 0.001; 0.0002; 0.0019

_____

11. 0.0910; 0.0911; 0.0903; 0.097

_____

12. 1.0001; 0.0001; 0.001; 1.0010

_____

13. 3.012; 3.021; 0.301; 3.001

_____

14. 0.071; 0.017; 1.0007; 0.0077

_____

Use place value to order the decimals from least to greatest.

15. 0.034; 0.004; 0.013; 1.03

_____

16. 0.0096; 0.0006; 0.0069; 0.0908

_____

17. 5.008; 5.0012; 5.021; 0.508

_____

18. 1.1042; 1.0421; 1.004; 0.142

_____

19. 0.0007; 0.007; 0.701; 0.001

_____

20. 0.057; 0.007; 0.0012; 0.502

_____

21. 1.129; 1.921; 1.2109; 1.09

_____

22. 3.104; 3.001; 4.002; 3.401

_____

Course II   3

Name _____

Divisibility Rules

Complete each divisibility rule.

1. A number is divisible by 2 if it is an _____ number.

2. A number is divisible by 3 if the sum of its digits is divisible by _____.

3. A number is divisible by 4 if the last two digits form a number divisible by _____.

4. A number is divisible by 5 if the ones digit is _____ or _____.

5. A number is divisible by 6 if it is divisible by both _____ and _____.

6. A number is divisible by 8 if the last three digits form a number divisible by _____.

7. A number is divisible by 9 if the sum of its digits is divisible by _____.

8. A number is divisible by 10 if the last digit is _____.

Use each divisibility rule to explain whether 305,382,094 is divisible by 2, 3, 4, 5, 6, 8, 9, and/or 10.
(*Hint*: You can use the underlined digit(s) as a reference.)

		Divisible by	Explanation
9.	305,382,09<u>4</u>	2	
10.	305,382,094	3	
11.	305,382,0<u>94</u>	4	
12.	305,382,09<u>4</u>	5	
13.	305,382,09<u>4</u>	6	
14.	305,382,<u>094</u>	8	
15.	<u>305,382,094</u>	9	
16.	305,382,09<u>4</u>	10	

Name _____

Prime and Composite Numbers

Write whether the number is *prime* or *composite*.
Find the factors for each number.

1. 18

_____

Factors of 18: _____

> **Remember:**
> A number is *prime* when it has exactly two factors, itself and 1. A number is *composite* when it has more than two factors. 0 and 1 are neither prime nor composite.

2. 136

_____

Factors of 136: _____

3. 895

_____

Factors of 895: _____

4. 504

_____

Factors of 504: _____

5. 67

_____

Factors of 67: _____

6. 936

_____

Factors of 936: _____

7. 125

_____

Factors of 125: _____

8. 380

_____

Factors of 380: _____

9. 1150

_____

Factors of 1150: _____

10. 17

_____

Factors of 17: _____

11. 12

_____

Factors of 12: _____

12. 393

_____

Factors of 393: _____

13. 246

_____

Factors of 246: _____

GCF and LCM

Find the greatest common factor (GCF) of these numbers.

1. 14, 42

_____

> **Remember:**
> The GCF of two or more numbers is the
> greatest number that is a factor of these
> numbers.

2. 9, 18, 72   **3.** 72, 96   **4.** 9, 81, 144

_____   _____   _____

5. 45, 60, 90   **6.** 19, 76, 133   **7.** 6, 15, 108

_____   _____   _____

8. 6, 39, 45, 72   **9.** 12, 24, 96, 120   **10.** 18, 72, 126, 270

_____   _____   _____

Find the least common multiple (LCM) of these numbers.

11. 6, 12, 24

_____

> **Remember:**
> The LCM of two or more numbers is the
> least number, except 0, that is a common
> multiple of all of the numbers.

12. 9, 15, 18   **13.** 5, 7, 35   **14.** 7, 28, 56

_____   _____   _____

15. 12, 16, 18   **16.** 2, 3, 4, 8   **17.** 4, 9, 12, 18

_____   _____   _____

18. 3, 5, 6, 15   **19.** 5, 8, 20, 40   **20.** 6, 8, 9, 12

_____   _____   _____

Properties of Addition and Multiplication

Use the Commutative Property to solve.

1. $1.6 + 0.2 =$

_____

2. $2.03 + 0.16 =$

3. $1.5 \times 1.1 =$

_____

4. $0.7 \times 0.4 =$

5. $3.4 + 2.5 =$

_____

6. $1.8 + 1.2 =$

7. $0.3 \times 0.9 =$

_____

8. $3.5 + 0.3 =$

9. $0.04 \times 0.1 =$

_____

Use the Associative Property to solve.

10. $(1.7 + 1.1) + 0.3 = 1.7 + (1.1 + 0.3)$

_____

11. $(3.1 + 2.5) + 0.1 = 3.1 + (2.5 + 0.1)$

12. $(0.3 \times 1.2) \times 0.6 = 0.3 \times (1.2 \times 0.6)$

_____

13. $(0.9 \times 0.2) \times 0.4 = 0.9 \times (0.2 \times 0.4)$

14. $(1.5 \times 0.8) \times 1.4 = 1.5 \times (0.8 \times 1.4)$

_____

15. $(5.2 + 0.5) + 0.4 = 5.2 + (0.5 + 0.4)$

16. $(1.0 \times 0.6) \times 1.3 = 1.0 \times (0.6 \times 1.3)$

_____

Name _____

Use the Identity Property to solve.

Think: "same"
$a + 0 = 0 + a$
$a \times 1 = 1 \times a$

17. $6.11 + 0 =$ _____

18. $0.8 \times 1 =$ _____   **19.** $1.13 \times 1 =$ _____

20. $4.01 + 0 =$ _____   **21.** $0.7 + 0 =$ _____

22. $1.75 \times 1 =$ _____   **23.** $2.006 + 0 =$ _____

Use the Zero Property of Multiplication to solve.

Think: "0 product"
$a \times 0 = 0 \times a$

24. $1.24 \times 0 =$ _____

25. $0.786 \times 0 =$ _____   **26.** $0.0045 \times 0 =$ _____

27. $3.65 \times 0 =$ _____   **28.** $2.08 \times 0 =$ _____

29. $0.054 \times 0 =$ _____   **30.** $1.932 \times 0 =$ _____

Use the Distributive Property of Multiplication over Addition to solve.

31. $0.7(0.4 + 1.3) =$

Think: "same factor across addends"
$a(b + c) = (a \times b) + (a \times c)$

_____

32. $1.4(0.2 + 0.4) =$ **33.** $2.0(0.5 + 2.1) =$

_____   _____

34. $0.02(0.8 + 2.06) =$ **35.** $1.3(1.1 + 1.6) =$

_____   _____

36. $3.5(0.5 + 1.0) =$ **37.** $0.1(0.6 + 0.9) =$

_____   _____

Multiply and Divide Decimals

Find the product.

1. 1.5
   $\times$ 1.5

2. 8.2
   $\times$ 1

3. 4.25
   $\times$ 0.25

4. 0.45
   $\times$ 5

5. 11.5
   $\times$ 8

6. 12
   $\times$ 7

7. 4.2
   $\times$ 1.8

8. 6.75
   $\times$ 16

9. 0.5
   $\times$ 0.6

10. 9
   $\times$ 4

11. 0.25
   $\times$ 4.2

12. 1.45
   $\times$ 50

13. 5.06
   $\times$ 4.7

14. 0.87
   $\times$ 12

15. 14.25
   $\times$ 4.67

16. 7.3
   $\times$ 5

Find the quotient.

17. $9.0\overline{)810}$

18. $0.08\overline{)32}$

19. $0.30\overline{)0.75}$

20. $6.25\overline{)5.5000}$

21. $5.5\overline{)3.2500}$

22. $1.5\overline{)5.25}$

23. $0.25\overline{)8.75}$

24. $0.6\overline{)0.54}$

25. $0.4\overline{)2.88}$

26. $9\overline{)3.6}$

27. $1.6\overline{)2.08}$

28. $1.65\overline{)6.435}$

29. $0.7\overline{)3.57}$

30. $1.2\overline{)10.8}$

31. $0.8\overline{)84.8}$

32. $1.2\overline{)3.072}$

Order of Operations with Integers

Compute.

1. $24 - 3 \times 5 \div (-5) + 2^2$

_____

2. $[21 + (4 \times 3)] \div 3$

3. $42 \div 7 \times 2$

_____

4. $(11 - 4) \times 6 - 2 \times (-7 + 2)$

5. $[31 + (3 \times 3)] \div (-8)$

_____

6. $54 \div 9 + 6 \times 4$

7. $[52 - (2 \times 5)] \div 7$

_____

8. $(9 - 2) \times 7 - 1 \times (12 - 2)$

9. $28 - 4 \times 4 \div 8 + (-2^3)$

_____

10. $(14 + 6) \div 5 + 9 \times (-11 + 6)$

11. $[24 + (3 \times 8)] \div 6$

_____

12. $(33 - 18) \times 2 - 5 \times (18 - 9)$

13. $-30 + 22 \times 3 \div 6 + (4^2)$

Name _____

Compute.

14. $(24 + 1) \div 5 + 7 \times (11 - 9)$

15. $[-10 + (-6 \times 9)] \div 8$

_____   _____

Simplify.

16. $\dfrac{(14) + (-6)}{-8 - (-4)}$ _____

17. $\dfrac{(2 + 3) - (5 + 6)}{7 + (-5)}$ _____

18. $\dfrac{21 \div (8 - 1)}{6 - 3}$ _____

19. $\dfrac{(17 - 7) - (4 - 2)}{12 - 8}$ _____

20. $\dfrac{(53) + (-9)}{14 - 3}$ _____

21. $\dfrac{2^3 - (5-1)}{7 - 3}$ _____

22. $\dfrac{3 \times (12 - 5)}{4 + 3}$ _____

23. $\dfrac{(12 + 36) \div 6 - 2 \times (8 - 6)}{5^2 - (10 + 11)}$ _____

24. $\dfrac{[16 + (4 \times 6)] \div 5}{2(21 - 19)}$ _____

25. $\dfrac{[56 - (6 \times 4)] \div (-8)}{(4^2) + (-22 + 15)}$ _____

26. $\dfrac{2 \times 7 - [(16 \div 8) + 2]}{5(9 - 2^3)}$ _____

Name _____

Zeros in a Product or Quotient

Multiply.

1. 1.093
    ×0.04

2. 0.0267
    ×1.01

3. 0.087
    ×0.023

4. 7.9009
    ×0.003

5. 0.003
    ×0.99

6. 8.012
    ×0.002

7. 0.0001
    ×0.07

8. 2.15
    ×0.013

9. 21.03
    ×0.004

10. 0.005
    ×1.006

11. 0.008
    ×0.06

12. 6.14
    ×0.006

13. 0.005
    ×2.001

14. 1.175
    ×0.02

15. 0.99
    ×0.006

16. 0.103
    ×0.4

17. 0.07
    ×1.2

18. 3.04
    ×0.01

19. 0.009
    ×3.6

20. 0.005
    ×0.05

21. 32.02
    ×0.003

22. 1.91
    ×0.01

23. 4.007
    ×0.012

24. 1.008
    ×0.003

25. 0.054
    ×0.007

26. 9.098
    ×0.004

Name _____

Divide.

27. $2.54 \div 62$

28. $0.00068 \div 0.02$

29. $1.834 \div 32$

_____ _____ _____

30. $0.015 \div 3$

31. $5.035 \div 50$

32. $0.0228 \div 2.4$

_____ _____ _____

33. $0.0049 \div 7$

34. $0.062 \div 32$

35. $1.0002 \div 16$

_____ _____ _____

Name _____

Mixed Numbers and Fractions

Rename each mixed number as a fraction.

Remember:
Multiply the whole number by the denominator.
Add the product to the numerator.
Write the sum as the numerator and the given denominator as the denominator.

1. $5\frac{2}{7}$

_____

2. $9\frac{3}{5}$

_____

3. $8\frac{4}{7}$

_____

4. $12\frac{1}{4}$

_____

5. $3\frac{1}{8}$

_____

6. $1\frac{9}{16}$

_____

7. $6\frac{7}{11}$

_____

8. $7\frac{3}{5}$

_____

9. $2\frac{1}{6}$

_____

10. $1\frac{8}{9}$

_____

11. $2\frac{1}{5}$

_____

12. $4\frac{1}{2}$

_____

13. $6\frac{2}{3}$

_____

14. $13\frac{5}{7}$

_____

15. $11\frac{5}{6}$

_____

16. $4\frac{7}{9}$

_____

17. $9\frac{3}{17}$

_____

18. $5\frac{11}{15}$

_____

19. $8\frac{5}{9}$

_____

20. $14\frac{2}{3}$

_____

21. $16\frac{5}{8}$

_____

Name _____

Rename each fraction as a mixed number.

Remember:
Divide the numerator by the denominator.
Write the quotient as the whole number part.
If there is a remainder, write it over the denominator
and express the fraction in simplest form.

22. $\frac{35}{6}$

23. $\frac{41}{12}$

24. $\frac{19}{3}$

25. $\frac{14}{5}$

26. $\frac{15}{4}$

27. $\frac{78}{13}$

28. $\frac{92}{17}$

29. $\frac{32}{17}$

30. $\frac{11}{5}$

31. $\frac{26}{14}$

32. $\frac{66}{12}$

33. $\frac{55}{11}$

34. $\frac{80}{13}$

35. $\frac{29}{4}$

Name _____

Add and Subtract Fractions

Add.

Remember:
Find the least common denominator (LCD) of the fractions.
Rename each fraction as an equivalent fraction with the LCD as the denominator.
Add. Express the sum in simplest form.

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

2. $\frac{3}{5} + \frac{7}{15} + \frac{2}{3}$

3. $\frac{2}{3} + \frac{7}{9} + \frac{5}{6}$

4. $\frac{13}{15} + \frac{5}{5} + \frac{9}{3}$

5. $\frac{13}{14} + \frac{3}{7} + \frac{1}{2}$

6. $\frac{5}{8} + \frac{9}{12} + \frac{2}{3}$

7. $\frac{7}{10} + \frac{13}{25} + \frac{2}{5}$

8. $\frac{17}{20} + \frac{3}{4} + \frac{5}{8}$

9. $\frac{11}{15} + \frac{7}{10} + \frac{1}{3}$

10. $\frac{17}{22} + \frac{5}{6} + \frac{2}{3}$

11. $\frac{5}{12} + \frac{3}{4} + \frac{1}{6}$

Name _____

Subtract.

12. $\frac{3}{4} - \frac{2}{3}$

13. $\frac{4}{7} - \frac{1}{8}$

> **Remember:**
> Find the least common denominator (LCD) of the fractions.
> Rename each fraction as an equivalent fraction with the LCD as the denominator.
> Subtract. Express the difference in simplest form.

14. $\frac{9}{10} - \frac{1}{5}$

15. $\frac{6}{9} - \frac{1}{3}$

16. $\frac{2}{5} - \frac{2}{7}$

17. $\frac{1}{2} - \frac{1}{3}$

18. $\frac{5}{6} - \frac{7}{12}$

19. $\frac{9}{13} - \frac{1}{2}$

20. $\frac{3}{5} - \frac{1}{2}$

21. $\frac{7}{9} - \frac{2}{3}$

22. $\frac{7}{8} - \frac{3}{5}$

23. $\frac{11}{15} - \frac{1}{8}$

24. $\frac{5}{12} - \frac{3}{8}$

25. $\frac{1}{2} - \frac{1}{4}$

Name _____

Multiply and Divide Fractions

Multiply. Write your answer in simplest form.

1. $\frac{2}{3} \cdot \frac{1}{5}$

2. $\frac{5}{6} \cdot \frac{1}{10}$

_____

3. $\frac{11}{13} \cdot \frac{3}{5}$

4. $\frac{1}{3} \cdot \frac{5}{12}$

5. $\frac{1}{7} \cdot \frac{1}{7}$

6. $\frac{2}{5} \cdot \frac{3}{20}$

7. $\frac{7}{9} \cdot \frac{5}{15}$

8. $\frac{3}{4} \cdot \frac{3}{4}$

9. $\frac{9}{12} \cdot \frac{6}{11}$

10. $\frac{5}{8} \cdot \frac{1}{3}$

11. $\frac{5}{6} \cdot \frac{3}{11}$

12. $\frac{3}{7} \cdot \frac{2}{3}$

13. $\frac{1}{7} \cdot \frac{1}{8}$

14. $\frac{4}{9} \cdot \frac{5}{6}$

Multiply using the greatest common factor (GCF).

15. $\frac{5}{7} \cdot \frac{21}{25}$

16. $\frac{3}{8} \cdot \frac{16}{24}$

17. $\frac{3}{8} \cdot \frac{5}{21}$

18. $\frac{2}{10} \cdot \frac{4}{6}$

19. $\frac{2}{5} \cdot \frac{1}{8}$

20. $\frac{2}{9} \cdot \frac{27}{36}$

21. $\frac{22}{31} \cdot \frac{1}{2}$

22. $\frac{1}{12} \cdot \frac{4}{5}$

23. $\frac{7}{10} \cdot \frac{16}{21}$

24. $\frac{8}{13} \cdot \frac{39}{42}$

25. $\frac{1}{8} \cdot \frac{64}{96}$

26. $\frac{8}{12} \cdot \frac{3}{1}$

27. $\frac{4}{7} \cdot \frac{1}{4}$

28. $\frac{6}{13} \cdot \frac{25}{6}$

Name _____

Divide.

29. $\frac{3}{8} \div \frac{3}{5}$

30. $\frac{15}{17} \div \frac{5}{1}$

_____   _____

31. $\frac{5}{6} \div \frac{10}{13}$

32. $\frac{3}{8} \div \frac{15}{8}$

33. $\frac{1}{9} \div \frac{5}{7}$

_____   _____   _____

34. $\frac{1}{2} \div \frac{7}{8}$

35. $\frac{4}{7} \div \frac{8}{21}$

36. $\frac{5}{3} \div \frac{3}{6}$

_____   _____   _____

37. $\frac{1}{2} \div \frac{9}{22}$

38. $\frac{3}{11} \div \frac{3}{7}$

39. $\frac{4}{5} \div \frac{14}{5}$

_____   _____   _____

40. $\frac{2}{8} \div \frac{16}{32}$

41. $\frac{3}{8} \div \frac{4}{16}$

42. $\frac{3}{9} \div \frac{27}{54}$

_____   _____   _____

43. $\frac{3}{7} \div \frac{21}{28}$

44. $\frac{1}{4} \div \frac{5}{12}$

45. $\frac{2}{6} \div \frac{10}{12}$

_____   _____   _____

Name _____

Decimals, Fractions, and Percents

Write the fraction as a percent. Round to the nearest hundredth.

1. $\frac{3}{4} =$ _____

2. $\frac{5}{12} =$ _____

> **Remember:**
> Use the Cross-Products Rule.

3. $\frac{9}{15} =$ _____

4. $\frac{21}{28} =$ _____

5. $\frac{9}{60} =$ _____

6. $\frac{6}{15} =$ _____

7. $\frac{5}{8} =$ _____

8. $\frac{5}{6} =$ _____

Write the percent as a fraction in simplest form.

9. $37\frac{1}{2}\% =$

10. $19\frac{1}{2}\% =$

_____

_____

11. $50\frac{2}{3}\% =$

12. $39\frac{1}{5}\% =$

_____

_____

13. $15\frac{1}{2}\% =$

14. $66\frac{3}{10}\% =$

_____

_____

15. $56\frac{3}{4}\% =$

16. $12\frac{1}{2}\% =$

_____

_____

Name _____

Write the decimal as a percent.

Remember:
Use the Cross-Products Rule.

17. $0.123 =$

18. $1.8356 =$

_____   _____

19. $6.392 =$

20. $0.7642 =$

_____   _____

21. $0.12123 =$

22. $0.529 =$

_____   _____

Write the decimal percent as a decimal.

Remember:
Dividing by 100 is the same as moving the decimal point two places to the *left*.

23. $64.7\% =$

24. $55.213\% =$

_____   _____

25. $82.5\% =$

26. $18.97\% =$

27. $48.3\% =$

_____   _____   _____

28. $13.75\% =$

29. $34\% =$

30. $91.8\% =$

_____   _____   _____

31. $9.6\% =$

32. $72.75\% =$

33. $37.33\% =$

_____   _____   _____

Use the percentage formula, $(p = rb)$ to find the percentage, p, rate, r, or base, b.

34. $r = 15\%$
   $b = 188$

35. $p = 1000$
   $r = 22\frac{1}{2}\%$

36. $b = 35$
   $p = 2.625$

_____   _____   _____

The Coordinate Plane
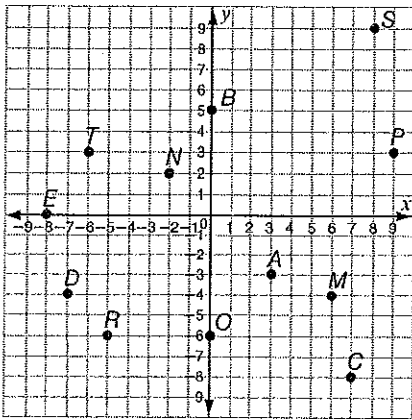
Find the coordinates for each point. Write the ordered pair.

1. A **2.** E **3.** N **4.** R

_____   _____   _____   _____

5. D **6.** S **7.** C **8.** T

_____   _____   _____   _____

9. B **10.** P **11.** M **12.** O

_____   _____   _____   _____

Locate the coordinates for each ordered pair on the grid above, and label the point. Write the quadrant each lies within.

13. $F\,(2, 1)$ **14.** $J\,(-5, 9)$ **15.** $Q\,(-1, 6)$ **16.** $V\,(5, -4)$

_____   _____   _____   _____

17. $G\,(-9, -1)$ **18.** $H\,(-9, -8)$ **19.** $W\,(8, 5)$ **20.** $Z\,(2, -9)$

_____   _____   _____   _____

21. $K\,(-3, 6)$ **22.** $L\,(2, -5)$ **23.** $U\,(5, 2)$ **24.** $Y\,(-3, -2)$

_____   _____   _____   _____

Name _____

Metric and Customary Systems of Measurement

Multiply or divide to rename each unit of measurement.

1. 5 m = ? cm

_____

2. 1200 mL = ? L

_____

3. 1000 g = ? kg

_____

4. 720 cm = ? m

_____

5. 1.8 kg = ? g

_____

6. 8700 cL = ? L

_____

> **Remember:**
> Multiply by a power of 10 to rename greater units as lesser units.
> Divide by a power of 10 to rename lesser units as greater units.

Multiply or divide to rename each unit of measurement.

7. 5 mi = ? yd

_____

8. 18 lb = ? oz

_____

9. 15 gal = ? qt

_____

10. 720 oz = ? lb

_____

11. 880 yd = ? mi

_____

12. 75 dm = ? m

_____

Add, subtract, or multiply. Then rename in simplest form.

13.　　6 ft　3 in.
　　+　3 ft　14 in.

_____

14.　　4 c　11 fl oz
　　+　1 c　3 fl oz

_____

15. 12T　550 lb
　×　　　　4

_____

16.　　1 lb　2 oz
　　+　3 lb　18 oz

_____

17.　　6 c　4 fl oz
　　−　4 c　5 fl oz

_____

18.　　6 gal　0 qt
　　−　2 gal　1 qt

_____

Basic Geometric Terms and Angle Classifications

Match the term in Column A with the definition in Column B.
Draw a figure to represent the term.

Column A		Column B
1. point	_____	**a.** a flat surface that extends indefinitely in all directions
2. ray	_____	**b.** lines that lie in the same plane and intersect at right angles
3. perpendicular lines	_____	**c.** part of a line with two endpoints
4. line	_____	**d.** an exact location in space, usually represented by a dot
5. intersecting lines	_____	**e.** part of a line with one endpoint
6. parallel lines	_____	**f.** formed by two rays with a common endpoint
7. plane	_____	**g.** lines that lie in the same plane and do not intersect
8. angle	_____	**h.** a set of points in space that form a straight path and extends indefinitely in opposite directions
9. line segment	_____	**i.** lines that lie in the same plane and meet at a point

Classify the following angles according to their degree measure. Write *acute, right, obtuse,* **or** *straight.*

10. an angle of 110°   **11.** an angle of 135°   **12.** an angle of 17°

_____   _____   _____

13. an angle of 45°   **14.** an angle of 180°   **15.** an angle of 90°

_____   _____   _____

Classify each angle.

16.

17.

18.

_____   _____   _____
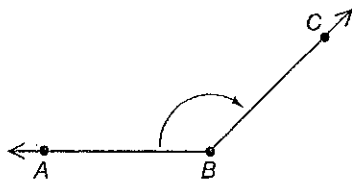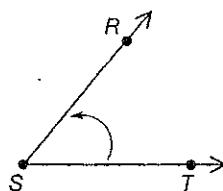
Use a protractor to measure each angle and write its degree measure.

19.
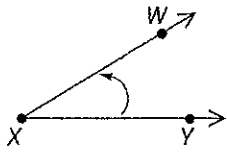
20.
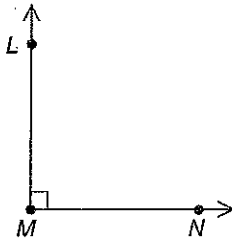
21.

_____   _____   _____
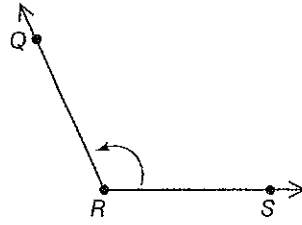
Use a protractor to draw each angle.

22. 120°   **23.** 165°

24. 42°   **25.** 35°

26. 270°   **27.** 45°

Triangles and Quadrilaterals

Match the term in Column A with the definition in Column B.

Column A		Column B
1. equilateral triangle	_____	a. three-sided polygons
2. right triangle	_____	b. one right angle
3. isosceles triangle	_____	c. no sides congruent
4. obtuse triangle	_____	d. all sides congruent
5. scalene triangle	_____	e. one obtuse angle
6. acute triangle	_____	f. three acute angles
7. triangle	_____	g. two sides congruent

Classify, or name, each triangle.
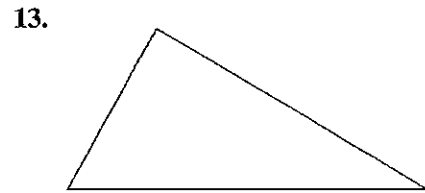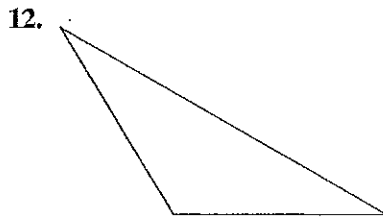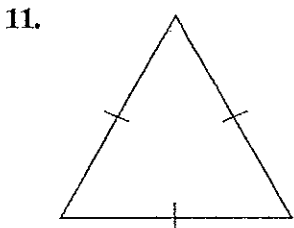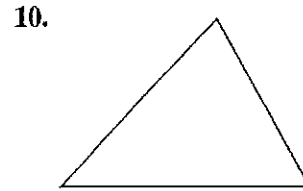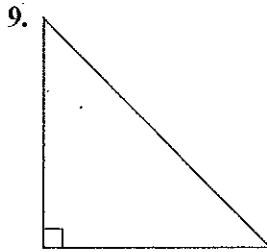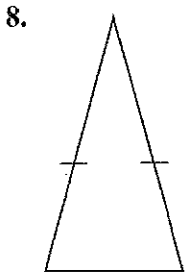
8.

9.

10.

11.

12.

13.

Name _____

Match the term in Column A with the definition in Column B.

Column A		Column B
14. quadrilateral	_____	a. parallelogram with four congruent sides
15. square	_____	b. parallelogram with four congruent sides and four right angles
16. rectangle	_____	c. parallelogram with four right angles
17. parallelogram	_____	d. polygon with four sides
18. rhombus	_____	e. quadrilateral with one pair of opposite sides parallel
19. trapezoid	_____	f. quadrilateral with opposite sides parallel, opposite sides congruent

Classify, or name, each quadrilateral.

20.

_____

21.

_____

22.

_____

23.

_____

24.

_____

25.

_____
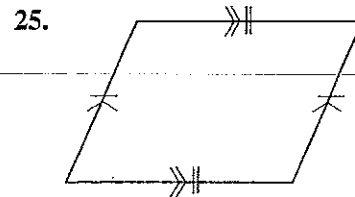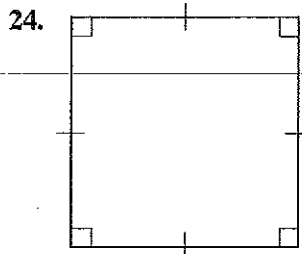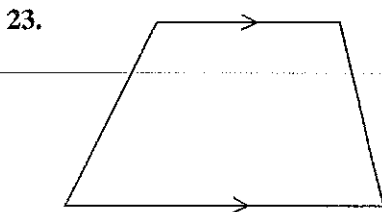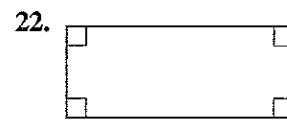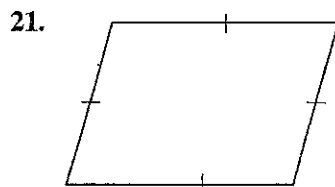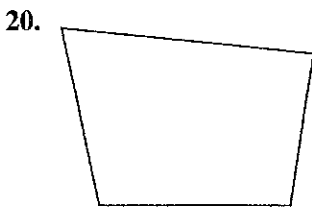
Similarity and Congruence

Classify each pair of figures. Write *similar* or *not similar*. Explain how you know.

1.
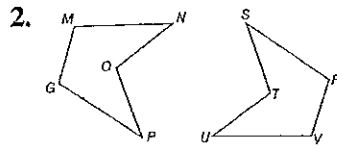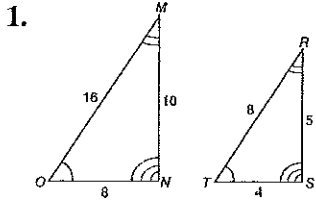
> **Remember:**
> *Similar figures* have the same shape and the same or different size. Their corresponding angles are congruent; the length of their corresponding sides is proportional.
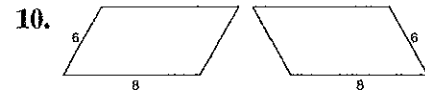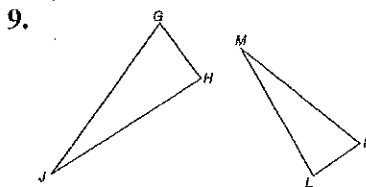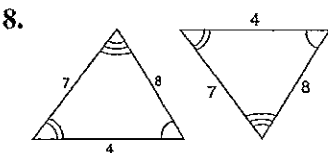
2.

_____   _____

3.

4.

5.

_____   _____   _____
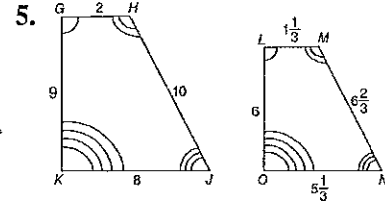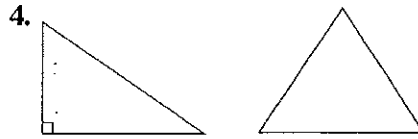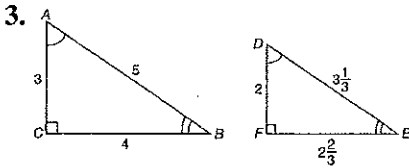
Classify each pair of polygons. Write *congruent* or *not congruent*. Explain how you know.

6.

7.
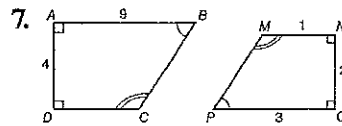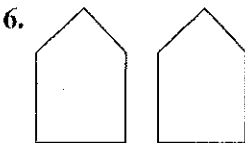
> **Remember:**
> *Congruent polygons* have the same shape and the same size. Their corresponding sides and corresponding angles are congruent.

8.

9.

10.

_____   _____   _____

Name _____

Perimeter and Area of Polygons

Find the perimeter, given the side lengths.

1. square, $s = 5$ yd

2. regular pentagon, $s = 15$ in.

> **Remember:**
> *Perimeter* is the distance around a polygon. The perimeter, P, of a rectangle is $P = 2(\ell + w)$

3. hexagon, $s = 12$ mi

4. rectangle, $\ell = 4$ in., $w = 3$ in.

5. parallelogram, $\ell = 6$ ft, $w = 9$ ft

6. octagon, $s = 8$ in.

7. equilateral triangle, $s = 16$ yd.

8. quadrilateral, $s_1 = 3$ yd, $s_2 = 6$ yd, $s_3 = 9$ yd, $s_4 = 12$ yd

Find the area given the dimensions of the figure. Use 3.14 for π.

9. rectangle: $\ell = 17$ in, $w = 2$ in.

10. parallelogram: $b = 5$ yd, $h = 30$ yd

> **Remember:**
> *Area* is the number of square units that cover a polygon's surface. Refer to SourceBook page 435 for the area formulas of polygons.

11. triangle: $b = 14$ ft, $h = 9$ ft

12. square: $s = 13$ mi

13. rectangle: $\ell = 8$ ft, $w = 25$ ft

14. circle: $r = 9$ yd

15. trapezoid: $b_1 = 6$ in. $h = 7$in, $b_2 = 10$ in.

16. circle: $d = 25$ yd

Volume and Surface Area

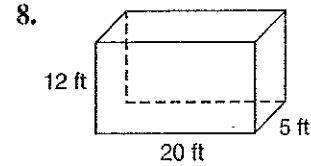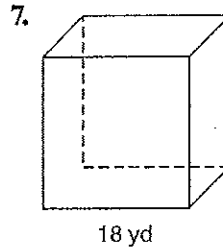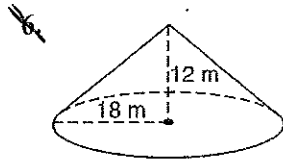**Find the volume of each figure. Use 3.14 for π.**

1. a cube
$e = 6$ in.

2. a cone
$h = 20$ in., $d = 16$ in.

3. a cylinder
$h = 8$ cm
$d = 15$ cm

4. rectangular prism
$h = 12$ in., $w = 16$ in.
$\ell = 18$ in.

5. triangular prism
Triangle $h = 2$ yd,
$b = 5$ yd, $h = 15$ yd

6.

12 m
18 m

7.

18 yd

8.

12 ft
20 ft
5 ft

Find the lateral area and surface area of each figure. Round to the nearest hundredth.

9. a cylinder
$h = 18$ ft
$d = 25$ ft

10. rectangular prism
$h = 6$ m, $w = 1.6$ m
$\ell = 8$ m

11. triangular prism
$h = 8$ ft, $s_1 = 5$ ft
$s_2 = 5$ ft, $b = s_3 = 6$

12.

4 m
5
3 m

13.

30 in.
16 in.
7 in.

14. $d = 1.5$ cm

68 cm
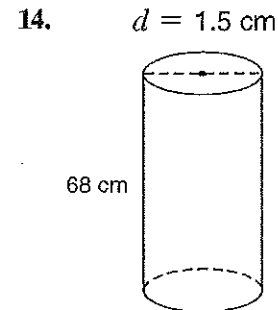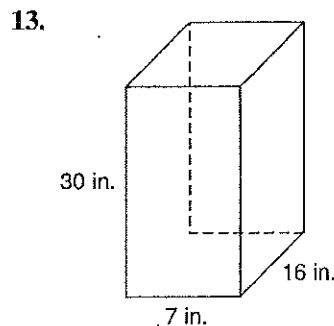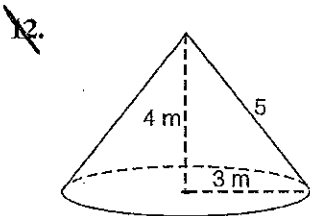
Probability and Odds

Use the following information for exercises 1–6. A store stocks 32 black coats, 17 navy blue coats, 2 red coats, and 12 striped coats. If a store clerk randomly picks from stock, find the probability...

1. of picking a striped coat.

> **Remember:**
> The probability of an event, $P(E)$, is equal to the number of favorable outcomes divided by the total number of possible outcomes.

2. of picking a black coat.

3. of picking a red or a black coat.

4. against picking a navy blue coat.

5. of picking any type of coat.

6. not picking a striped coat.

7. of picking a navy blue or striped coat.

8. Jack, Sue, Johanna, Steve, and Becky eat dinner. Two of them must wash the dishes. If two are chosen at random, and each as an equally likely chance of being picked, what is the probability that the two will be boys? That the two will be girls?

A number cube labeled 1–6 is tossed. Find the odds...

9. of rolling a 4.

> **Remember:**
> Odds are a ratio that compares the number of favorable outcomes to the number of unfavorable outcomes, or vice versa.

10. of rolling a multiple of 2.

11. of rolling a multiple of 3.

12. against rolling a 5.

13. against rolling a multiple of 4.