Grades 7 & 8

Required Religion Book:

Grade 7 - Swaim, Colleen - Ablaze: Stories of Daring Teen Saints
Grade 8 - Swaim, Colleen - Ablaze: Stories of Daring Teen Saints

Students, you must choose at least one nonfiction book, one fiction book, and another of book of your 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 Oppel, Kenneth - *Half Brother*

Paulsen, Gary - *Hatchet* series

Rhodes, Jewell Parker - *Towers Falling*

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

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 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 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)*

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

Name _____

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 _____

Skills Update
Page 409 #1

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.
$$\begin{array}{r} 4.362 \\ 17.649 \\ +\ 8.539 \\ \hline \end{array}$$

10.
$$\begin{array}{r} 73.89 \\ 8.06 \\ +\ 22.10 \\ \hline \end{array}$$

11.
$$\begin{array}{r} 37.06 \\ 15.62 \\ +\ 6.10 \\ \hline \end{array}$$

12.
$$\begin{array}{r} 0.362 \\ 13.346 \\ +\ 5.892 \\ \hline \end{array}$$

13.
$$\begin{array}{r} 98.37 \\ 6.08 \\ +\ 0.122 \\ \hline \end{array}$$

14.
$$\begin{array}{r} 8.301 \\ 0.027 \\ +\ 0.092 \\ \hline \end{array}$$

Use compatible numbers to estimate decimal quotients.

15. $5\overline{)3.25}$ **16.** $9\overline{)8.72}$ **17.** $64\overline{)4.2438}$

_____ _____ _____

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

18. $3.7\overline{)6.936}$ **19.** $19\overline{)94.16}$ **20.** $3.86\overline{)19.4}$

_____ _____ _____

Estimate the answer. Name the method you used.

21.
$$\begin{array}{r} 16.32 \\ 4.39 \\ +\ 43.74 \\ \hline \end{array}$$

22.
$$\begin{array}{r} 1.396 \\ 18.031 \\ +\ 32.529 \\ \hline \end{array}$$

23.
$$\begin{array}{r} 5.028 \\ 35.570 \\ +\ 71.332 \\ \hline \end{array}$$

_____ _____ _____

24. $13\overline{)42.56}$ **25.** $5.673\overline{)1208.37}$ **26.** $802\overline{)426.9}$

_____ _____ _____

Name _____

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

_____

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. 305,382,0<u>94</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.

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.

1. 18

_____

Factors of 18: _____

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: _____

Name _____

Skills Update
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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

_____

Name _____

Skills Update
Page 404 IV

Properties of Addition and Multiplication

Use the Commutative Property to solve.

Think: "order"
$a + b = b + a$
$a \times b = b \times a$

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.

Think: "grouping"
$(a + b) + c = a + (b + c)$
$(a \times b) \times c = a \times (b \times c)$

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.

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

31. $0.7(0.4 + 1.3) =$

_____

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.** $0.1(0.6 + 0.9) =$

_____ _____

Name _____

Multiply and Divide Decimals

Find the product.

1. 1.5×1.5

2. 8.2×1

3. 4.25×0.25

4. 0.45×5

5. 11.5×8

6. 12×7

7. 4.2×1.8

8. 6.75×16

9. 0.5×0.6

10. 9×4

11. 0.25×4.2

12. 1.45×50

13. 5.06×4.7

14. 0.87×12

15. 14.25×4.67

16. 7.3×5

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. $1.2\overline{)3.072}$

Name _____

Skills Update
Page 405 V

Order of Operations with Integers

Compute.

Remember:
Order of Operations
1. ( ) before [ ]
2. exponents
3. "×" or "÷" left to right
4. "+" or "−" left to right

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.

Remember:
A fraction bar is also a grouping symbol. Do any computation above or below before simplifying.

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 _____

Skills Update
Page 408X

Zeros in a Product or Quotient

Multiply.

Remember:
Sometimes you need to write zeros to the left of nonzero digits in the product in order to place the decimal point correctly.

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.** 1	0.054 ×0.007	**26.**	9.098 ×0.004

Name _____

Remember:
If needed, write one or more zeros *in the quotient* to show the correct place value.

Divide.

27. 2.54 ÷ 62

28. 0.00068 ÷ 0.02

29. 1.834 ÷ 32

30. 0.015 ÷ 3

31. 5.035 ÷ 50

32. 0.0228 ÷ 2.4

33. 0.0049 ÷ 7

34. 0.062 ÷ 32

35. 1.0002 ÷ 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.

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

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

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.

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 _____

Skills Update
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Multiply and Divide Fractions

Multiply. Write your answer in simplest form.

Remember:
Multiply the numerators.
Then multiply the denominators.
Write the product 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).

Remember:
Divide any numerator and denominator by the greatest common factor (GCF).
Multiply the numerators. Then multiply the denominators. Their product will be in simplest form.

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.

Remember:
Multiply by the reciprocal of the divisor.
Simplify using the GCF, where possible. Then multiply the numerators and the denominators.
Rename the product as a whole or mixed number when needed.

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 _____

Skills Update
Page 407X

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 _____

Remember:
Use the Cross-Products Rule.

Write the decimal as a percent.

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.

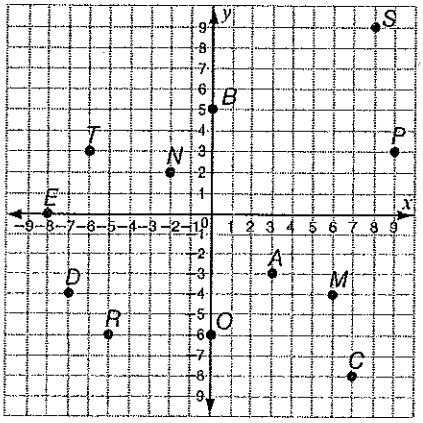
34. $r = 15\%$
$b = 188$

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

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

Name _____

The Coordinate Plane



Remember:
A coordinate plane is formed by the *coordinate axes*, where the horizontal line is the *x*-axis and the vertical line is the *y*-axis.
Axes divide the coordinate plane into four sections, called *quadrants*, numbered counterclockwise from the upper right, starting with Quadrant I and ending with Quadrant IV.
An *ordered pair* (x, y) locates a point on a 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 _____

Skills Update
Page 408 XIII

Metric and Customary Systems of Measurement

Multiply or divide to rename each unit of measurement.

1. 5 m = ? cm

_____

2. 1200 mL = ? 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.

3. 1000 g = ? kg

_____

4. 720 cm = ? m

_____

5. 1.8 kg = ? g

_____

6. 8700 cL = ? L

_____

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

_____

Name _____

Skills Update
Page 409, XIV

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°

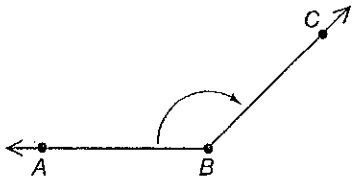
_____

15. an angle of 90°

_____

Classify each angle.

16.



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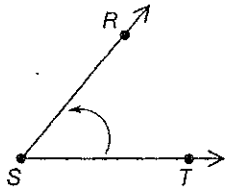
17.



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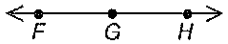
18.

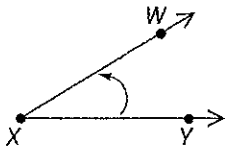


_____

Name _____

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

19.



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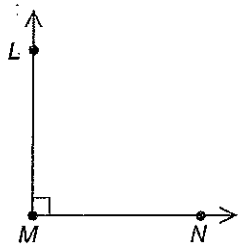
20.



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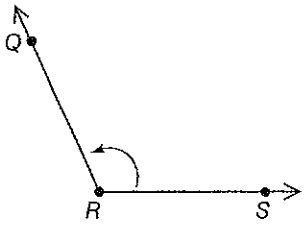


_____

Use a protractor to draw each angle.

22. 120°

23. 165°

24. 42°

25. 35°

26. 270°

27. 45°

Name _____

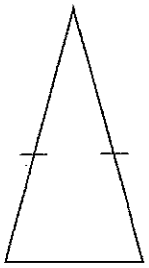
Triangles and Quadrilaterals

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.



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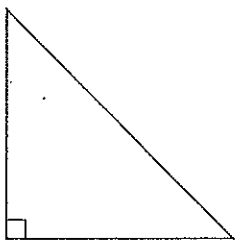

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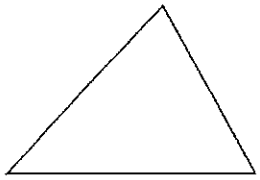

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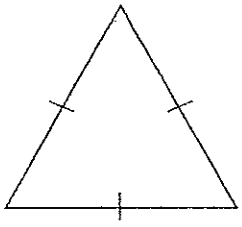
11.



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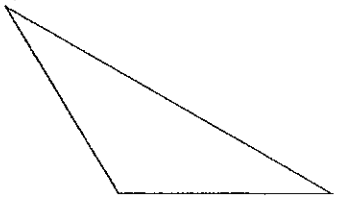
12.



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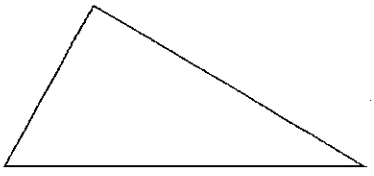
13.



_____

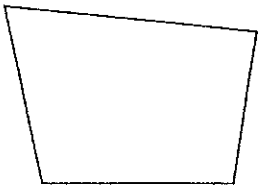
Name _____

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.



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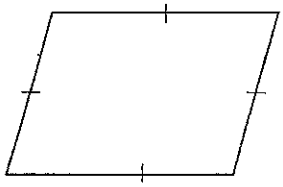
21.



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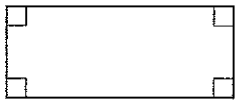
22.



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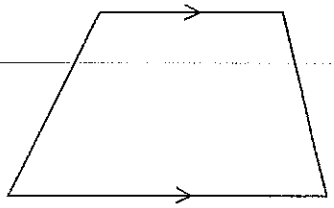
23.



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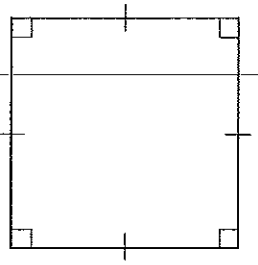
24.



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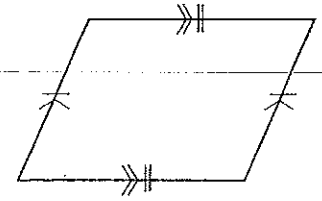
25.



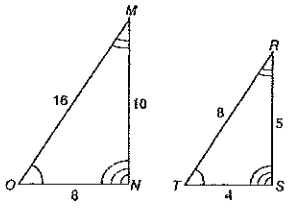
_____

Name _____

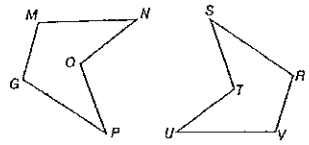
Similarity and Congruence

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

1.



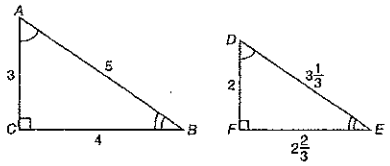
2.



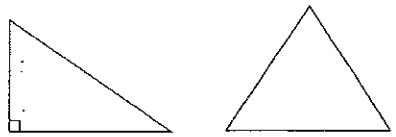
Remember:
Similar figures have the same shape and the same or different size. Their corresponding angles are congruent; the length of their corresponding sides is proportional.

_____ _____

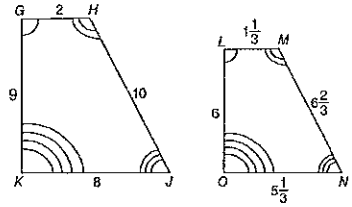
3.



4.



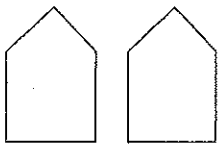
5.



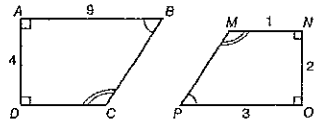
_____ _____ _____

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

6.



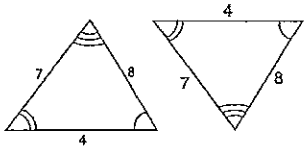
7.



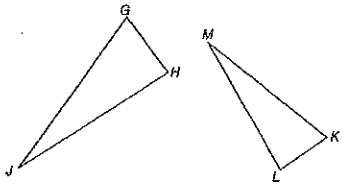
Remember:
Congruent polygons have the same shape and the same size. Their corresponding sides and corresponding angles are congruent.

_____ _____

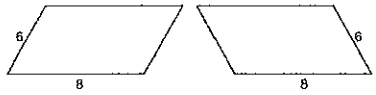
8.



9.



10.



_____ _____ _____

Name _____

Skills Update
Page 412 XVIII

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

Name _____

Volume and Surface Area

Remember:
Volume is the space a figure occupies.
Volume of a Prism: $V = \ell wh$
Volume of a Cylinder: $V = bh$ or $V = \pi r^2 h$
Lateral area is the area of all surfaces of a figure except the base(s). $LA = Ph$
Surface area of a three-dimensional figure is the sum of the areas of all its surfaces
$S = 2(\ell w + \ell h + wh)$
Lateral and Surface Areas of a Cylinder:
$LA = 2\pi rh$ or πdh
$S = LA + 2B$, where LA is lateral area, r is the radius of the base, d is the diameter of the base, h is the height of the cylinder, S is the surface area, and B is the area of the base.

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

1. a cube
$e = 6$ in.

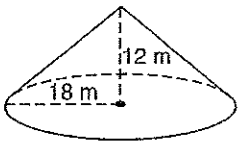
2. a cone
$h = 20$ in., $d = 16$ in.

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.



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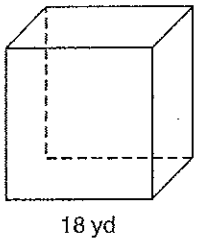
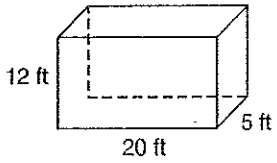


8.



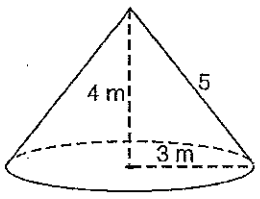
Find the lateral area and surface area of each figure. Round to the nearest hundredth.

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

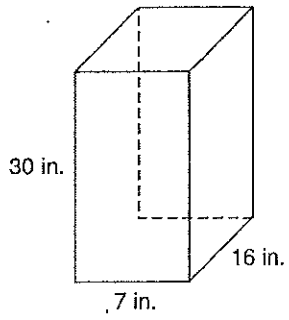
10. rectangular prism
$h = 6$ m, $w = 1.6$ m
$\ell = 8$ m

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

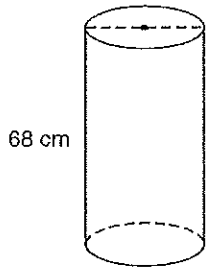
12.



13.



14. $d = 1.5$ cm



Name _____

Skills Update
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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.

_____