# SUMMER MATH REVIEW PACKET

**In preparation for 8th Grade Algebra I Honors**
**(Answers are attached)**

**Viewpoint School Department of Mathematics asks incoming Middle School students to complete a summer review packet. By completing the attached problems, students will continue to practice concepts that they have already learned and sharpen their basic skills.**

**Please complete the work on separate paper and number each problem. We ask that you do not use a calculator for computation and you show all steps required to solve each problem.**

**The review packet is due upon your return to school in September. Your math teacher will collect your packet, along with the attached work, on the first day of your math class.**

**We also ask that you continue to practice your multiplication and division facts up through 144. For practice you may refer to: http://www.theteacherscafe.com/Worksheets/Math/Multiplication-Division.htm**

**If you have any questions, please email: hmeriwether@viewpoint.org**

***Name:*_____**

# CUMULATIVE TEST— Chapters 1–3

DIRECTIONS: **Write the answer in the space provided.**

## Chapter 1

**Evaluate the expression when $e = 6$ and $f = 14$.**

**1.** $e + f$ **2.** $f - e \times 2$ **3.** $42 \div \frac{f}{2}$ **4.** $2f - e$

**Replace ___?___ with =, >, or < to make a true statement.**

**5.** $20 + 4 \div 2$ ___?___ 12 **6.** 102 ___?___ $4 \times 28$

**7.** 2468 ___?___ 2648 **8.** 36,720 ___?___ 36,072

**Use the inverse operation to write a related equation or inequality and solve for the variable.**

**9.** $9r = 126$ **10.** $m \div 3 \leq 12$

**11.** $2b + 6 = 28$ **12.** $s + 9 > 15$

**Write an equation or inequality for the word sentence.**

**13.** The product of thirteen and a number $d$ is ninety-one.

**14.** The sum of twenty-two and two less than a number $n$ is fifty-four.

**Solve, using the five-step plan.**

**15.** Adam purchased a fishing rod for \$19.98, a package of six hooks for \$2.00, a roll of 200 ft of fishing line costing \$3.75, three lures costing 92¢ each, and a tackle box costing \$5.83. How much change did he get after paying with a \$50 bill?

## Chapter 2

**Which is greater?**

**16.** $2^3$ or $3^2$ **17.** $3^2 \times 3^5$ or $4^3 \times 4^4$

**18.** $(3 + 2)^3$ or $10^2$ **19.** $10^2$ or $5^2 \times 2$

**Round to the place specified.**

**20.** hundredths: 132.3998 **21.** tens: 385.045

**Simplify the expression.**

**22.** $432.8 - (12.5 + 7.4)^2$ **23.** $2x + 3 + 4y + x + 2 + 5y$

*ANSWERS*

1. _____ (2)
2. _____ (2)
3. _____ (2)
4. _____ (2)
5. _____ (2)
6. _____ (2)
7. _____ (2)
8. _____ (2)
9. _____ (2)
10. _____ (2)
11. _____ (2)
12. _____ (2)
13. _____ (2)
14. _____ (2)
15. _____ (2)
16. _____ (2)
17. _____ (2)
18. _____ (2)
19. _____ (2)
20. _____ (2)
21. _____ (2)
22. _____ (2)
23. _____ (2)

***Name:*** _____

# CUMULATIVE TEST — Chapters 1–3 *(continued)*

**Solve and check your answer.**

**24.** Jane worked as a gas-station attendant for 18 h this week and 15 h last week. If she earns $3.25 an hour, how much did she earn for two weeks?

**25.** Thomas is 3 y younger than Chris. Kim is twice as old as Thomas. If Chris is 17, how old is Kim?

## Chapter 3

**Replace ___?___ with =, >, or < to make a true statement.**

**26.** $-3$ ___?___ $-5$

**27.** $|6|$ ___?___ $|-7|$

**28.** $12$ ___?___ $-13$

**29.** $-8$ ___?___ $3$

**Find the sum or difference.**

**30.** $-16.3 + 24.1$

**31.** $-8.2 + -0.36$

**32.** $-7 + 5 + -11$

**33.** $46.9 - (-12.3)$

**34.** $-8.3 - (-8.3)$

**35.** $0 - 54.7$

**Find the product or quotient.**

**36.** $-5.2\ (-14.3)$

**37.** $-3(-2)(-5)(-10)$

**38.** $-0.06 \div 0.2$

**39.** $-8(3.06)$

**Evaluate the expression when $r = -2.4$ and $s = -5.6$.**

**40.** $r + s$

**41.** $10rs$

**42.** $-|s|$

**43.** $|r| + |s|$

**Write the expression without exponents.**

**44.** $4^{-2}$

**45.** $5^{-7} \times 5^{6}$

**46.** $(-2)^{3} \times (-2)^{-2}$

**47.** $3 \times 10^{-4}$

*ANSWERS*

**24.** _____ (2)

**25.** _____ (2)

**26.** _____ (2)

**27.** _____ (2)

**28.** _____ (2)

**29.** _____ (2)

**30.** _____ (2)

**31.** _____ (2)

**32.** _____ (2)

**33.** _____ (2)

**34.** _____ (2)

**35.** _____ (2)

**36.** _____ (2)

**37.** _____ (2)

**38.** _____ (2)

**39.** _____ (2)

**40.** _____ (2)

**41.** _____ (2)

**42.** _____ (3)

**43.** _____ (3)

**44.** _____ (3)

**45.** _____ (3)

**46.** _____ (3)

**47.** _____ (3)

***Name:*_____**

# CUMULATIVE TEST— Chapters 4–6

DIRECTIONS: **Write the answer in the space provided.**

## Chapter 4

**Write as a proper fraction in lowest terms or as a mixed number in simple form.**

**1.** $\frac{16}{56}$ **2.** $-\frac{135}{180}$ **3.** $\frac{-72}{20}$

**Add or subtract. Write the answer as a proper fraction in lowest terms or as a mixed number in simple form.**

**4.** $\frac{3}{4} + \frac{7}{10}$ **5.** $-\frac{5}{8} + \frac{11}{12}$

**6.** $1\frac{2}{3} - (-3\frac{5}{6})$ **7.** $-1\frac{1}{2} - \frac{1}{2}$

**Multiply or divide. Write the answer as a proper fraction in lowest terms or as a mixed number in simple form.**

**8.** $\frac{3}{8} \times -\frac{24}{27}$ **9.** $-6\frac{2}{7} \times -1\frac{3}{11}$

**10.** $5\frac{1}{9} \div 1\frac{1}{3}$ **11.** $3\frac{1}{3} \div -2\frac{1}{2}$

**Write as a terminating or repeating decimal. Use a bar to show a repetend.**

**12.** $\frac{8}{25}$ **13.** $\frac{7}{8}$ **14.** $\frac{5}{12}$

**Solve.**

**15.** Mark Hansen worked $15\frac{1}{2}$ hours last week and earned \$62. What was his hourly rate of pay?

## Chapter 5

**Use one of the properties of equality to form a true sentence.**

**16.** If $3 + f = 14$, then $f =$ ___?___

**17.** If $53.4 = 3g$, then ___?___ $= g$.

*ANSWERS*

1. _____ (2)
2. _____ (2)
3. _____ (2)
4. _____ (2)
5. _____ (2)
6. _____ (2)
7. _____ (2)
8. _____ (2)
9. _____ (2)
10. _____ (2)
11. _____ (2)
12. _____ (3)
13. _____ (3)
14. _____ (3)
15. _____ (3)
16. _____ (3)
17. _____ (3)

***Name:*_____**

# CUMULATIVE TEST— Chapters 4–6 *(continued)*

**Use transformations to solve the equation or inequality.**

**18.** $-4\frac{1}{5} + t = 5$

**19.** $3.2 + d + 2.8 = -9$

**20.** $-8a = 13.6$

**21.** $-\frac{5}{8} = -\frac{1}{4}r$

**22.** $-4p + 3 = 6p + 13$

**23.** $-9a < 72$

**24.** $-18 \geq 3(2x + 2)$

**25.** $-\frac{2}{3}b + 2 < 6$

**Write an equation for the problem. Do not solve.**

**26.** Janet is 4 years less than twice William's age. If the sum of their ages is 39, how old is Janet?

**Use an equation to solve.**

**27.** Baxter, Romero, and Hirsch pooled their funds to purchase a computer software store. They spent a total of $580,000. Baxter spent three times as much as Hirsch but $13,000 less than Romero. How much did each spend?

## Chapter 6

**Complete. Use the appropriate symbols for segments, lines, and rays.**

**28.** ___?___ is a segment with endpoints $R$ and $S$.

**29.** ___?___ is a ray through point $A$ that begins at point $O$.

**30.** If the diameter of a circle is 9, the circumference is ___?___. Use $\pi \approx 3.14$.

**31.** The measure of an acute angle is between ___?___° and ___?___°.

**Solve.**

**32.** Two angles are supplementary. The measure of one angle is 58° greater than the measure of the other angle. Find the measures of the angles.

**33.** One of the acute angles of a right triangle has a measure four times as great as the other. What are the measures of the three angles of the triangle?

**34.** Name two quadrilaterals in which all sides are congruent.

**35.** The perimeter of a regular octagon is 365.6 cm. Find the length of one side of the octagon.

*ANSWERS*

**18.** _____ (3)

**19.** _____ (3)

**20.** _____ (3)

**21.** _____ (3)

**22.** _____ (3)

**23.** _____ (3)

**24.** _____ (3)

**25.** _____ (3)

**26.** _____ (4)

**27.** _____ (4)

_____

_____

**28.** _____ (3)

**29.** _____ (3)

**30.** _____ (3)

**31.** _____ (3)

**32.** _____ (4)

**33.** _____ (4)

**34.** _____ (4)

_____

**35.** _____ (4)

Name:_____

# CUMULATIVE TEST — Chapters 7–9

DIRECTIONS: **Write the answer in the space provided.**

## Chapter 7

**Solve each proportion.**

1. $\frac{d}{18} = \frac{72}{81}$ 2. $\frac{8}{6} = \frac{46}{n}$ 3. $\frac{8}{2x} = \frac{20}{35}$

**Solve.**

4. Ten shirts can be made from $17\frac{1}{2}$ yd of fabric. How many shirts can be made from 28 yd of fabric?

5. A scale drawing of a bridge uses a scale of 4 cm:1 m. If the length of the bridge in the drawing is 460 cm, what is the actual length of the bridge?

6. What is 135% of 92?

7. 18 is 37.5% of what number?

8. The membership in the Far Hills Jogging Club increased from 75 to 87. What was the percent of increase?

9. A piano sales representative earns a 7% commission on his sales. If his commission was \$243.60 last week, what was the total value of his sales?

10. The original price of a Browning baseball mitt was \$33.80. If the price is now discounted 15%, what is the sale price?

11. How much simple interest would be earned on \$325 at 8.5% interest for 4 years?

## Chapter 8

**Tell whether the ordered pair is a solution of the given equation.**

$x - 4y = 2$

12. $(0, -2)$ 13. $(2, 0)$ 14. $(-2, -1)$

**Solve the equation for $y$ in terms of $x$.**

15. $\frac{2}{3}x - y = 6$ 16. $3x + 4y = 12$ 17. $2y - 8x = 6$

**Complete.**

18. To find the solution of a system of equations, find the point of ___?___ of the graphs of the two equations.

*ANSWERS*

1. _____ (1)
2. _____ (1)
3. _____ (1)
4. _____ (4)
5. _____ (4)
6. _____ (4)
7. _____ (4)
8. _____ (4)
9. _____ (4)
10. _____ (4)
11. _____ (4)
12. _____ (1)
13. _____ (1)
14. _____ (1)
15. _____ (4)
16. _____ (4)
17. _____ (4)
18. _____ (2)

Name:_____

# CUMULATIVE TEST — Chapters 7–9 *(continued)*

**19.** If the graphs of two linear equations coincide, this system has ___?___ solution(s).

**Is the ordered pair a solution of the system of equations?**

**20.** (4, −2) $x + y = 2$, $x - y = 6$

**21.** (2, −6) $2x + y = -3$, $x - y = 9$

**Complete.**

**22.** A basic property of a straight line graph is that its slope remains ___?___.

**23.** The boundary line for the graph $y > x + 5$ is shown as a ___?___ line.

**24.** It takes a marathon runner 25 minutes to warm up and $6\frac{1}{2}$ minutes to run a mile. Write an equation relating the total time ($t$) required for running practice to the number of miles ($d$) to be run.

## Chapter 9

**Find the area of the region described. Use $\pi \approx \frac{22}{7}$ if necessary.**

**25.** Trapezoid: bases 8.5 and 12.5, height 14.

**26.** Circle: radius = 14 m.

**27.** Parallelogram: base 18, height 24.5.

**28.** Circle: circumference = $7\pi$.

**Find the volume. Use $\pi \approx \frac{22}{7}$ if necessary.**

**29.** Prism: base area = 36 $cm^2$, height = 8.5 cm.

**30.** Cone: base diameter = 8 m, height = 3 m.

**Solve.**

**31.** A carpet remnant is on sale for $828. If the carpet piece measures 8 ft by 9 ft, what is the cost per square foot?

**32.** Find the lateral area and the total surface area of a cylinder with a radius of 7 m and a height of 20 m. Use $\pi \approx \frac{22}{7}$.

**33.** The area of a sphere is 900 $\pi$ $m^2$. What is the diameter?

*ANSWERS*

**19.** _____ (4)

**20.** _____ (2)

**21.** _____ (2)

**22.** _____ (4)

**23.** _____ (4)

**24.** _____ (8)

**25.** _____ (1)

**26.** _____ (1)

**27.** _____ (1)

**28.** _____ (4)

**29.** _____ (1)

**30.** _____ (4)

**31.** _____ (4)

**32.** _____ (4)

**33.** _____ (4)

*Name:*_____

# CUMULATIVE TEST— Chapters 10–13

DIRECTIONS: **Write the answer in the space provided.**

## Chapter 10

**Replace the ___?___ with >, <, or = to make a true statement.**

1. $-\sqrt{100}$ ___?___ $\sqrt{64}$

2. $\sqrt{16} + \sqrt{9}$ ___?___ $\sqrt{16 + 9}$

**Solve. Use interpolation and the table on page 528.**

3. A square floor has an area of 68.8 $m^2$. Find the length of a side to the nearest tenth of a meter.

4. Find the length of a diagonal of a 15-cm by 15-cm square to the nearest tenth of a centimeter.

**Solve. Give the answer in terms of radicals with the radical in the numerator.**

5. A ladder 8 ft long resting against a house makes a 60° angle with the ground. How far up the house does it reach?

**$\triangle ABC$ is a right triangle with $\angle C = 90°$, $BC = 24$ and $AB = 26$. Give all ratios in lowest terms.**

6. Find the length of $\overline{AC}$.

7. Find sin $A$.

8. Find $m\angle A$ to the nearest degree. Use the table on page 529.

## Chapter 11

9. In how many different ways can you arrange the letters in the word THINK if you take the letters 3 at a time?

10. The probability of snow tomorrow is 60%. What are the odds in favor of snow?

11. Two game cubes are rolled at the same time. Find the probability that at least one 4 or one 2 shows up.

**For Exercises 12–13, use a bag that contains 6 green marbles and 4 red marbles.**

12. A marble is drawn at random and replaced. Then a second marble is drawn. Find the probability that both marbles are red.

*ANSWERS*

1. _____ (4)
2. _____ (4)
3. _____ (4)
4. _____ (4)
5. _____ (4)
6. _____ (4)
7. _____ (4)
8. _____ (4)
9. _____ (4)
10. _____ (4)
11. _____ (4)
12. _____ (4)

Name:_____

# CUMULATIVE TEST— Chapters 10–13 *(continued)*

**13.** A marble is drawn and is not replaced. Then a second marble is drawn. Find the probability that both marbles are green.

**14.** Of a random sample of 750 disc cameras, 3 were found to be defective. What is the probability that the next camera will be defective?

### Chapter 12

**Exercises 15–18 use the fact that goals scored by the soccer team in this season's games were 8, 2, 7, 3, 8, 3, 8, 5, 7, 8, 4, 9.**

**15.** Find the range of the data.

**16.** Find the mean.

**17.** Find the median.

**18.** Find the mode.

**Complete.**

**19.** A table that pairs each item of data with the number of times that item occurs is called a __?__.

**20.** A box contains 6 nickels, 8 dimes, and 2 quarters. You are allowed to select one coin without looking. If $V$ = the value in cents of the coin you select, what is the expected value of $V$?

### Chapter 13

**21.** Add $13a^3 + 9a^2 - 7a - 12$ and $-10a^3 - a + 18$.

**22.** Subtract the second polynomial from the first.

$6x^3 - 13x^2 - 12$; $4x^3 - 11x^2 - 5x + 2$

**Multiply the two polynomials.**

**23.** $-4z^2 + 8z - 3$; $3z + 5$

**24.** Expand $(9a - 4)^2$.

**Divide the first polynomial by the second.**

**25.** $x^3 - 4x^2 - 3x + 18$; $x - 3$

*ANSWERS*

**13.** _____ (4)

**14.** _____ (4)

**15.** _____ (4)

**16.** _____ (4)

**17.** _____ (4)

**18.** _____ (4)

**19.** _____ (4)

**20.** _____ (4)

**21.** _____ (4)

**22.** _____ (4)

**23.** _____ (4)

**24.** _____ (4)

**25.** _____ (4)

***Name:*_____**

# CUMULATIVE REVIEW— Chapters 1–13

*Exercises*

**Evaluate the expression if $a = 3$, $b = 6$, and $c = \frac{1}{3}$.**

**1.** $ac - b$ _____ **2.** $a^2 - bc$ _____ **3.** $(-abc)^3$ _____

**Round to the place specified.**

**4.** thousandths'; 65.76154 _____ **5.** hundredths'; 101.5457 _____

**6.** Simplify: $4(9 - 6) \times 5 \div 3 + 2$ _____ **7.** Solve: $\frac{35}{42} = \frac{r}{2.4}$ _____

**8.** Solve: $5m - 8 \geq 22$ _____ **9.** Solve: $6p - 2(3 - 2p) = 13$ _____

**Complete.**

**10.** 36 is _____ % of 80 **11.** _____ is 0.15% of 60.

**12.** Solve $-9x + y = 24$ for $y$ in terms of $x$. _____

**Find the area of the figure described. Leave your answer in terms of $\pi$ if necessary.**

**13.** Circle with radius $4\sqrt{2}$ cm. _____

**14.** Triangle with height $6\sqrt{3}$ in. and base 13 in. _____

**Complete. For exercise 15–18, refer to the following set of data: 8, 9, 2, 4, 7, 5, 4, 5, 7, 7.**

**15.** The range is _____ **16.** The mean is _____

**17.** The median is _____ **18.** The mode is _____

**19.** $-7m^3 - 3m^2 + 16m - 15$; $7m^3 - 14m - 19$

**a.** Add the pair of polynomials. _____

**b.** Subtract the second polynomial from the first. _____

**20.** $9z^3 - 9z^2 + 2z + 2$; $3z + 1$

**a.** Multiply the two polynomials. _____

**b.** Divide the first polynomial by the second. _____

Name:_____

# CUMULATIVE REVIEW— Chapters 1–13 *(continued)*

*Problems*

**Problem Solving Reminders**

Here are some problem solving reminders that may help you solve some of the problems on this page.

- Determine which facts are necessary to solve the problem.
- Consider whether making a sketch will help.
- Sometimes more than one method can be used to solve a problem.

**Solve.**

1. Greg O'Brien earns \$611.20 per week. Scott Reynalds earns $1\frac{1}{4}$ as much as Greg. If Darrel Martin earns 70% of what Greg earns, how much does Darrel earn? _____

2. Two angles are supplementary. The measure of one angle is 9° less than twice the measure of the other angle. Find the measure of the other angle. Find the measure of the greater angle. _____

3. A savings account was opened with \$5000. The bank pays $6\frac{1}{2}$% interest, compounded quarterly. How much money is in the account after 1 quarter? _____

4. The third side of an isosceles triangle is twice the length of one of the equal sides, minus 7 cm. If the perimeter of the triangle is 73 cm, find the lengths of the sides. _____

5. In a school having 990 students 12 out of 27 students are girls. How many boy students are there? _____

6. A jar contains 25 pennies, 15 nickels, 5 dimes and 5 quarters. If a coin is drawn from the jar, what is the probability of picking a quarter? _____

7. Mike scored 85, 88, 87, 93, 95, 92, 83 on his math tests. What is the least he can score on the next test if he wants to maintain a 90 average? _____

8. The top and bottom of a rectangular box are squares with sides of length $2x + 1$. The height of the box is $3x$. Using the variable $x$, write a polynomial that represents the total surface area of the box. _____

9. The length of a rectangle is $3n^2 - 2n - 5$. The width is $2n^2 + 5n - 5$. Find the perimeter of the rectangle. _____

10. The length and width of a rectangular box are $5x + 6$ and $2x - 5$, respectively. Find the area of the box. _____

## *Answers:*

**CUMULATIVE TEST 3** 1. 20 2. 2 3. 6
4. 22 5. > 6. < 7. < 8. >
9. $r = 126 \div 9$, $r = 14$ 10. $m \leq 12 \times 3$, $m \leq 36$
11. $b = (28 - 6) \div 2$, $b = 11$ 12. $s > 15 - 9$, $s > 6$
13. $13d = 91$ 14. $22 + n - 2 = 54$ 15. \$15.68
16. $3^2$ 17. $4^3 \times 4^4$ 18. $(3 + 2)^3$ 19. $10^2$
20. 132.40 21. 390 22. 36.79 23. $3x + 9y + 5$

**CUMULATIVE TEST 3** 24. \$107.25 25. 28
26. > 27. < 28. > 29. < 30. 7.8
31. −8.56 32. −13 33. 59.2 34. 0
35. −54.7 36. 74.36 37. 300 38. −0.3
39. −24.48 40. −8 41. 134.4 42. −5.6
43. 8 44. $\frac{1}{16}$ 45. $\frac{1}{5}$ 46. −2 47. $\frac{3}{10{,}000}$

**CUMULATIVE TEST 6** 1. $\frac{2}{7}$ 2. $-\frac{3}{4}$
3. $-3\frac{3}{5}$ 4. $1\frac{9}{20}$ 5. $\frac{7}{24}$ 6. $5\frac{1}{2}$ 7. −2
8. $-\frac{1}{3}$ 9. 8 10. $3\frac{5}{6}$ 11. $-\frac{1}{3}$ 12. 0.32
13. 0.875 14. $0.41\overline{6}$ 15. \$4 16. 11
17. 17.8

**CUMULATIVE TEST 6** 18. $t = 9\frac{1}{5}$ 19. $d = -15$
20. $a = 17$ 21. $r = 2\frac{1}{2}$ 22. $p = -1$
23. $a > -8$ 24. $-4 \geq x$ 25. $b > 6$
26. $3x - 4 = 39$ 27. Hirsch \$81,000, Baxter \$243,000, Romero \$256,000 28. $\overline{RS}$ 29. $\overrightarrow{OA}$ 30. 28.26
31. 0°, 90° 32. 61°, 119° 33. 18°, 72°, 90°
34. rhombus, square 35. 45.7 cm

**CUMULATIVE TEST 9** 1. $d = 16$ 2. $n = 34.5$
3. $x = 7$ 4. 16 5. 115 m 6. 124.2 7. 48
8. 16% 9. \$3480 10. \$28.73 11. \$110.50
12. no 13. yes 14. yes 15. $y = \frac{2}{3}x - 6$
16. $y = \frac{12 - 3x}{4}$ or $y = 3 - \frac{3}{4}x$ 17. $y = 3 + 4x$
18. intersection

**CUMULATIVE TEST 9** 19. infinitely many
20. yes 21. no 22. constant 23. dashed
24. $t = 25 + 6\frac{1}{2}d$ 25. 147 26. 616 $m^2$ 27. 441
28. 38.5 29. 306 $cm^3$ 30. 50.29 $m^3$ 31. \$11.50
32. 880 $m^2$, 1188 $m^2$ 33. 30 m

**CUMULATIVE TEST 13** 1. < 2. >
3. 8.3 m 4. 21.2 5. $4\sqrt{3}$ ft 6. 10 7. $\frac{12}{13}$
8. 67° 9. 60 10. 3:2 11. $\frac{5}{9}$ 12. $\frac{4}{25}$

**CUMULATIVE TEST 13** 13. $\frac{1}{3}$ 14. 0.004
15. 7 16. 6 17. 7 18. 8 19. frequency distribution 20. 10 cents 21. $3a^3 + 9a^2 - 8a + 6$
22. $2x^3 - 2x^2 + 5x - 14$ 23. $-12z^3 + 4z^2 + 31z - 15$
24. $81a^2 - 72a + 16$ 25. $x^2 - x - 6$

**CUMULATIVE REVIEW 13** 1. −5 2. 7
3. −216 4. 65.762 5. 101.55 6. 22 7. $r = 2$
8. $m \geq 6$ 9. $p = \frac{19}{10}$ 10. 45 11. 0.09
12. $y = 9x + 24$ 13. $32\pi$ $cm^2$ 14. $39\sqrt{3}$ $in.^2$
15. 7 16. 5.8 17. 6 18. 7
19. a. $-3m^2 + 2m - 34$ b. $-14m^3 - 3m^2 + 30m + 4$
20. a. $27z^4 - 18z^3 - 3z^2 + 8z + 2$ b. $3z^2 - 4z + 2$

**CUMULATIVE REVIEW 13** 1. \$534.80
2. 117° 3. \$5081.25 4. 20 cm, 20 cm, 33 cm
5. 550 6. $\frac{1}{10}$ 7. 97 8. $32x^2 + 20x + 2$
9. $10n^2 + 6n - 20$ 10. $10x^2 - 13x - 30$