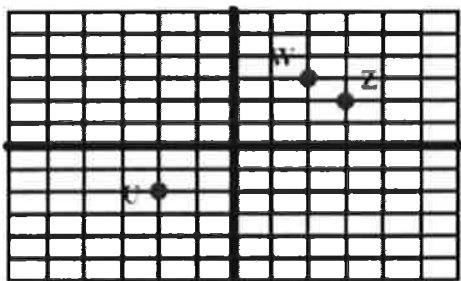


Pre Algebra

Prep

Topic: Ratios and Proportions

- Write the following ratio as a fraction in simplest form. 24 to 30
- Jeffrey burned 15 out of 60 cookies. What percent did he burn?
- Mr. Nguyen saves \$ 120 of his income of \$ 800. What percent of his income does Mr. Nguyen save?
- Ms. Williams gives 8% of her income to charity. Ms. Williams' monthly income is \$2000. How much does she give to charity each month?
- What point has the coordinates (2,3)?



- What point does the ordered pair (2,3) fall in?
- Round 45.972 to the nearest tenth.
- What is $33\frac{1}{3}\%$ of 165?

Complete the table.

Fraction	Decimal	Percent
9.	10.	2%
11.	.08	12.
$\frac{1}{3}$	13.	14.

- A school has 500 students and 30 English teachers and 20 Math teachers. The ratio between the number of math teachers and the number of students of the school is ...

Topic: The Number System

- Choose the integer with the greatest absolute value. 3, -1, 4
- Calculate $-11 - (-7)$.
- What is the smallest integer? Graph your answer on a number line. 0, -5, 5, -1

19. Calculate $26 - 36$.
20. What number multiplied by 5 gives -20 ?
21. 6 subtracted from what number gives -10 ?
22. Julia read for $2\frac{1}{5}$ hours on Saturday, $1\frac{3}{4}$ hours on Sunday and $\frac{5}{6}$ of an hour on Monday. Find the total amount of time Julia read.
23. Simplify your answer: $3\frac{1}{2} \div 1\frac{1}{3}$.
24. Solve $1\frac{1}{4} + 3\frac{3}{8} =$
25. The temperature was -3°C on Friday and dropped over night by 9°C . What was the temperature on Saturday morning when Michelle woke up?
26. Convert $\frac{682}{55}$ to a decimal.
27. Write the following numbers in order from least to greatest. $0.4, \frac{1}{2}, 0.6, \frac{4}{7}$
28. Keisha can travel 12 yards in 1 minutes. How many feet can she travel in 2 minutes?
29. Jackson's bill at lunch was \$32. He wants to tip his waitress 20%. What will his bill be after he adds the tip?
30. Molly wants to buy a coat that is \$89.99. It is marked down 15% for the Spring Sale. How much will Molly pay for the coat?

Topic: Expressions and Equations



31. Find the prime factorization of 24.
32. Find the prime factorization of 60.
33. Write the factors of 12.
34. List the first 5 multiples of 21.
35. Find the greatest common factor of 8 and 12.
36. Find the LCM of 24 and 36.
37. In the equation $3x + 2 = 9$, what is the coefficient?
38. Evaluate the expression: $10 + 10 \div 2 - (3 + 21) =$

39. solve $12\frac{1}{2} - (1\frac{1}{3} + 3)$.

40. $2^4 \times 3^2 \times 5$ is the prime factorization of what number?

41. Evaluate the expression if $x = 4$. $2(x - 0.1) + 1 =$

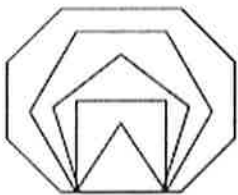
42. What is the solution of the equation $4x - 2 = 17$.

43. What is the solution of the equation $4(x - 2) = 17$. 44. What is the solution of the inequality $2x - 5 > 19$?

45. What is the solution of the inequality $6x - 12 < 3$?

Topic: Geometry 

46. Identify each of the polygons. Begin with the triangle and continue to the outermost polygon.



47. The diameter of a circle is 8 cm. Using the formula, $C = \pi d$, find the circumference of the circle. ($\pi = 3.14$)

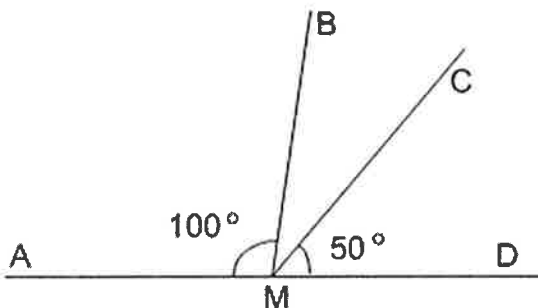
48. A rectangle has a perimeter of 30 m. The length is 10m. Solve the following equation to find the width. $2w + 2(10) = 30$.

49. Find the area of a rectangular garden with a length of 9.45 m and a width of 3.76 m.

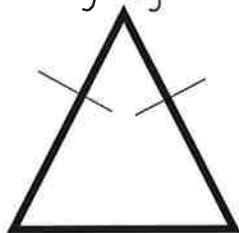
50. Which of the following numbers is closer to the area of a circle with a radius of 2.1?

10.25, 11.33, 13.85, 14.2

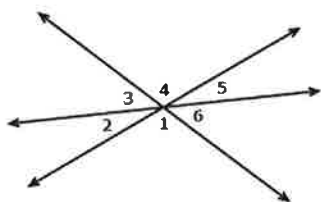
51. If M is a point on the AD line in the figure below, the value of the BMC angle is _____ degrees.



52. Classify the following triangle by its sides.

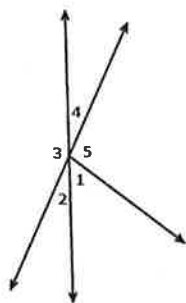


53. Which angle is vertical to angle 1?

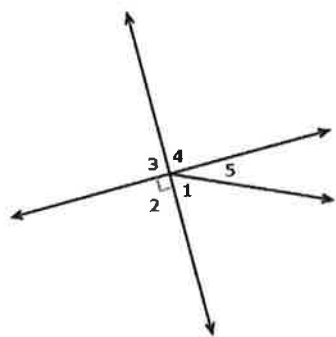


54. If the diameter of a circle is 32 feet, what is the radius?

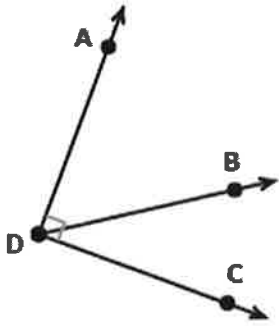
55. Which angles are adjacent to angle 5? Write down all that apply.



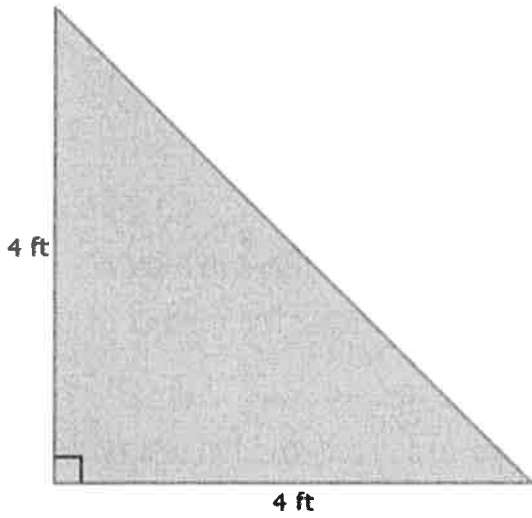
56. What is an angle that is supplementary to angle 3?



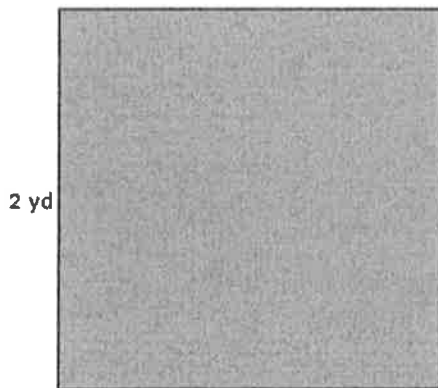
57. Which angle is complementary to angle ADB?



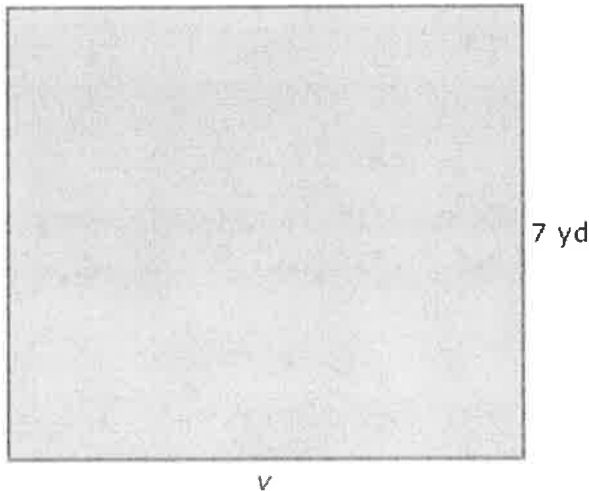
58. What is the area?



59. What is the area of this square?



60. What is the missing length?



area = 56 yd^2

Topic: Statistics and Probability



61. Suppose there are 2 choices for ice cream cones: sugar and cake, and there are choices for ice cream: chocolate, vanilla and strawberry. Draw a tree diagram to determine the number of possible combinations.
62. There are 24 marbles in a bag. Six marbles are red, eight are green and ten are black. Find the probability of choosing a green marble if one marble is chosen at random. Express the probability as a ratio.
63. What is the probability of rolling a 3 with one die?
64. What is the probability of rolling an odd number with one die?
65. What is the probability of rolling a 2 or a 5 with one die?
66. What is the probability of tossing heads with 1 coin?
67. What is the probability of tossing a head or a tail with 1 coin?
68. From a deck of cards, what is the probability you will draw a card that is a club and a heart?
69. From a deck of cards, what is the probability you will draw a card that is a club or a heart?

70. A student is randomly selected from a class of 32 students. What is the probability that the selected student is a boy, if there are 20 girls in the class?

71. Maryam has a lot of craft projects she must complete in time for a big party. On the past 6 days, she has gotten the following number of centerpieces assembled:

2 centerpieces	5 centerpieces	4 center pieces
4 centerpieces	6 centerpieces	7 centerpieces

What was the mode of the number of centerpieces assembled?

72. A magician is preparing for a show by unpacking his box of props. He will need 3 different props for the show. In how many different orders can they be unpacked?

73. Pam is putting together a makeup kit for a friend. There are 4 types of eye shadow and 4 types of mascara to choose from. How many different kits can Pam make?

74. Cassie has the following data:

Q	20	15	10	8
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If the mode is 10, which number could Q be?

75. Kayla weeded the neighbors' gardens all summer. The 6 neighbors paid:

\$6.00	\$8.00	\$8.00	\$5.00	\$6.00	\$9.00
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What was the mean amount paid?

