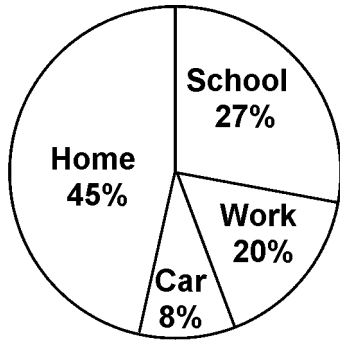
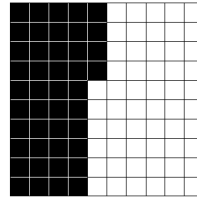


Base your answers to questions 1 and 2 on the following circle graph which shows the portion of the time Billy spends at home, work, school, and in his car.

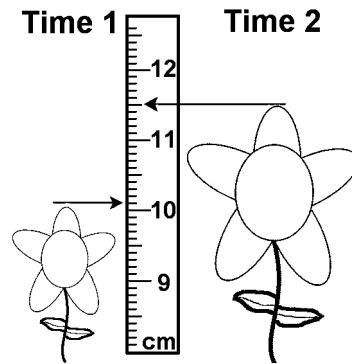


- About how many hours in a day does he work?
 (A) 3 (C) 8
 (B) 5 (D) 20
- About how many hours in a day does he spend at home?
 (A) 8 (C) 13
 (B) 11 (D) 16
- Mary and John are eating pizza. Mary ate 25% and John ate $\frac{3}{8}$ of the pizza. What percent of the pizza is left?
 (A) 30% (C) 25%
 (B) 40% (D) 37.5%
- Solve for x : $9^x = 729$
 (A) 2 (C) 4
 (B) 3 (D) 5
- Melanie bought a house that cost \$125,000. The down payment was \$39,587. Estimate how much she owed for the house after paying the down payment.
 (A) \$45,000 (C) \$85,000
 (B) \$65,000 (D) \$90,000
- A drum-set from the music store cost \$178.99 after a 10% discount. Which is closest to the original price?
 (A) \$160 (C) \$190
 (B) \$180 (D) \$200
- A rental car service had 139 cars to rent. 79 of the cars were rented out. Approximately what percent of the cars were rented?
 (A) 42.1% (C) 56.8%
 (B) 53.5% (D) 79.5%
- It takes 45 minutes to record 3 cassette tapes. How long does it take to record 7 cassette tapes?
 (A) 90 minutes (C) 135 minutes
 (B) 105 minutes (D) 315 minutes

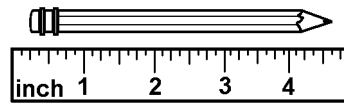
9. What percent is represented by the picture?



- (A) 0.44% (C) 44%
 (B) 0.54% (D) 54%
10. For an experiment, Andrea is determining the growth of a flower. She measures the plant once each week. The picture below shows the height of the plant at two times. How much did the plant grow between Time 1 and Time 2?

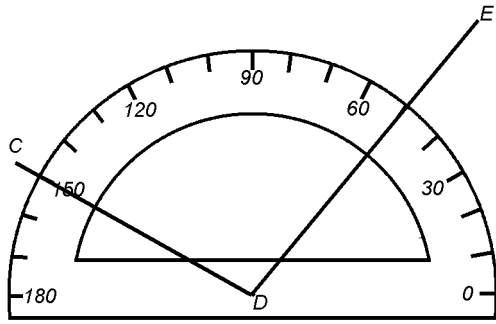


- (A) 1.4 cm (C) 10.1 cm
 (B) 1.5 cm (D) 11.5 cm
11. If a factory makes 360 buckets in an hour, how many buckets do they make in 1 minute?
 (A) 6 buckets (C) 18 buckets
 (B) 10 buckets (D) 36 buckets
12. An average car weighs approximately
 (A) 20 pounds (C) 2,000 pounds
 (B) 200 pounds (D) 20,000 pounds
13. Using the ruler in the picture, approximately what is the length of this pencil?



- (A) 0.250 inches (C) 4.375 inches
 (B) 4.000 inches (D) 4.625 inches
14. The temperature in Miami was 75°F, while the temperature in Alaska was -18°F. How much colder was it in Alaska?
 (A) 57°F (C) 90°F
 (B) 93°F (D) 18°F

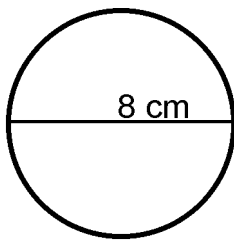
15.



What is the angle measure of $\angle CDE$?

- (A) 50°
- (B) 100°
- (C) 150°
- (D) 200°

16. What is the approximate area of the circle?



- (A) 16 cm^2
- (B) 50 cm^2
- (C) 64 cm^2
- (D) 201 cm^2

17. Brian drove 12 miles due west and 16 miles due north. How far from his original position is he?

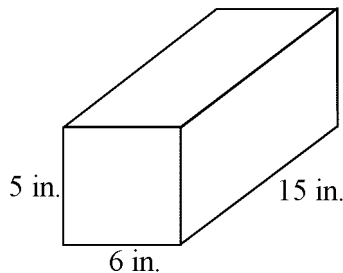
- (A) 20 miles
- (B) 28 miles
- (C) 4 miles
- (D) 32 miles

18. Which geometric figure has a shape *most* like a baseball?



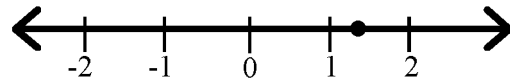
- (A) cone
- (B) cylinder
- (C) pyramid
- (D) sphere

19. Find the volume of the rectangular prism below.



- (A) 26 in^3
- (B) 225 in^3
- (C) 450 in^3
- (D) 900 in^3

20. Which of the following numbers could be represented by the point in the figure below?



- (A) $\frac{1}{3}$
- (B) $\sqrt{2}$
- (C) 1.7
- (D) $\frac{3}{2}$

21. Which quadrants does the line $y = 3x$ run through?

- (A) I and II
- (B) II and III
- (C) I and III
- (D) II and IV

22. Donna has 14 candy bars and wants to split them evenly among her friends, saving 2 for herself. She gives 3 to each of her friends. Which one of the following expressions could you use to find out how many friends Donna gave candy to?

- (A) $2 = 14 + 3f$
- (B) $14 = 2 + 3f$
- (C) $14 = 3f - 2$
- (D) $14 + 3f + 2 = 0$

23. Bill went into a pet store and made some observations about the 90 fish in the store. He observed that there were twice as many brown fish as blue fish, and 3 times as many blue fish as red fish. If he wishes to know how many red fish he observed, which of the following expressions will he need?

- (A) $6x - 3x = 90 - x$
- (B) $6x + 3x = 90 + x$
- (C) $6x + 3x = x - 90$
- (D) $6x + 3x = 90 - x$

24. When $x = 2$, the equation $x^3 + 4x - 5$ equals

- (A) -5
- (B) 7
- (C) 9
- (D) 11

25. Madison is buying gumballs at the candy store. The first gumball costs her \$0.30. Each additional gumball after that costs her \$0.24. She spent \$2.94. How many gumballs did she buy?

- (A) 10 gumballs
- (B) 11 gumballs
- (C) 12 gumballs
- (D) 13 gumballs

26. Simplify: $3x(2x^2 - y^3)$

- (A) $5x^2 - 3x^3y^3$
- (B) $5x^2 + 3x^3y^3$
- (C) $6x^3 - 3xy^3$
- (D) $6x^3 + 3xy^3$

27. In the expression $10x + 2$, what is the variable?

- (A) 10
- (B) x
- (C) 2
- (D) $10x$

28. By the distributive property, $35 - 7 =$

- (A) $7 - 35$
- (B) $35 + 7$
- (C) $-7 + 35$
- (D) $7(5 - 1)$

29. The chart below shows the average speeds of drivers A, B, C, and D and the time each driver drove for.

Driver	Speed	Time
A	.25 ft/s	24 sec
B	.33 ft/s	48 sec
C	.35 ft/s	10 sec
D	.25 ft/s	8 sec

Which car traveled the furthest?

- (A) A (C) C
 (B) B (D) D
30. You go to a coffee shop where you are presented with many options. You can have Regular, Decaffeinated, or French Vanilla coffee. You can have it with or without sugar. Also, you can have it with whole milk, half and half, one percent milk, or no milk. How many different ways are possible to have your coffee?
 (A) 9 (C) 20
 (B) 18 (D) 24
31. Marcus has a bag of marbles. The bag contains 10 blue marbles, 5 green marbles, 16 red marbles, and 9 orange marbles. He picks a marble from the bag at random. What is the probability that he picked a red marble?
 (A) 40% (C) 12.5%
 (B) 25% (D) 22.5%

32. The table below shows the number of miles Gary walked in a week

Day	# of Miles
Monday	11
Tuesday	9
Wednesday	4
Thursday	15
Friday	0

What is the mean distance Gary walked?

- (A) 7.8 (C) 8
 (B) 7.6 (D) 7.4
33. Carl has saved \$12.00 in his savings account and plans to save \$3.00 each week. Ian has \$9.00 and plans to save \$4.00 each week. Both save as planned. After how many weeks will they have the same amount of money in their accounts?
 (A) after 2 weeks (D) after 5 weeks
 (B) after 3 weeks (E) after 6 weeks
 (C) after 4 weeks

34. Which equation would produce the pattern in the table below?

x	y
3	25
4	31
5	37

- (A) $y = 6x + 7$ (C) $y = 8x + 1$
 (B) $y = 7x + 4$ (D) $y = 9x - 2$
35. The students at Boone Middle School are planting trees in a pattern in their courtyard. The first row will have 3 trees, the second row will have 7 trees, and the third row will have 11 trees. If the pattern continues, how many trees will be in the sixth row?
 (A) 15 trees (C) 19 trees
 (B) 23 trees (D) 27 trees
36. Mark had 16 baseball cards in his collection. He traded half of them to his friend and received 2 cards back for every 1 he traded. How many cards does Mark have now?
 (A) 8 (C) 24
 (B) 16 (D) 32

Base your answers to questions 37 through 39 on the grades on a test, which were 99, 96, 94, 89, 85, 82, 82, 81, 75, 73, 69, 54, 33, 21, and 2.

37. What is the average (mean) of the grades?
 (A) 2 (C) 81
 (B) 69 (D) 82
38. What is the median of the grades?
 (A) 2 (C) 75
 (B) 69 (D) 81
39. What is the mode of the grades?
 (A) 2 (C) 81
 (B) 69 (D) 82
-
40. In Mrs. Jones' class, a student's final grade depends on the student's average (mean) score for three exams and a project (all four items weighted equally). If that average is 90 or higher, the student earns an A. Michelle's average score for the three tests is 94. What is the lowest score she can get on the project and still receive an A in the class?
 (A) 68 (C) 88
 (B) 78 (D) 90
41. Jamal owned 50 marbles. Every hour he lost 9 marbles. In how many hours did Jamal have less than 10 marbles?
 (A) 4 (C) 6
 (B) 5 (D) 7

Answer Key

1. B
2. B
3. D
4. B
5. C
6. D
7. C
8. B
9. C
10. A
11. A
12. C
13. C
14. B
15. B
16. B
17. A
18. D
19. C
20. B
21. C
22. B
23. D
24. D
25. C
26. C
27. B
28. D
29. B
30. D

31. A
32. A
33. B
34. A
35. B
36. C
37. B
38. D
39. D
40. B
41. B

Eduware Genealogy by Question

Displaying UNIT CHAPTER TOPIC SUBTOPIC QUESTION ID

1. VI. DATA ANALYSIS AND PROBABILITY / A. Information Management / 1. Data Collection and Organization / b. Graphs: Bar, line, circle : 0000547
2. VI. DATA ANALYSIS AND PROBABILITY / A. Information Management / 1. Data Collection and Organization / b. Graphs: Bar, line, circle : 0000548
3. I. NUMBER SENSE, CONCEPTS, AND OPERATIONS / A. Number Representation / 2. Equivalent Forms and Symbols / a. Int., frac., dec., %, sci. not., exp., rad., etc. : 0002797
4. I. NUMBER SENSE, CONCEPTS, AND OPERATIONS / C. Operations / 1. Selection and Comp. of Operations / c. Square roots and exponents : 0000369
5. I. NUMBER SENSE, CONCEPTS, AND OPERATIONS / C. Operations / 2. Estimation / a. Estimation : 0001431
6. I. NUMBER SENSE, CONCEPTS, AND OPERATIONS / C. Operations / 2. Estimation / a. Estimation : 0002420
7. I. NUMBER SENSE, CONCEPTS, AND OPERATIONS / D. Ratios/Proportions/Percents / 1. Interpretation as Part of 100 / a. Base 10 : 0000101
8. I. NUMBER SENSE, CONCEPTS, AND OPERATIONS / D. Ratios/Proportions/Percents / 3. Related Ratios / a. Comparing ratios : 0000163
9. I. NUMBER SENSE, CONCEPTS, AND OPERATIONS / D. Ratios/Proportions/Percents / 1. Interpretation as Part of 100 / a. Base 10 : 0001878
10. II. MEASUREMENT / A. Systems of Measurement / 1. Standard/Nonstandard and Metric/Customary systems / a. Unit of measure : 0000590
11. II. MEASUREMENT / A. Systems of Measurement / 1. Standard/Nonstandard and Metric/Customary systems / b. Conversion within customary or metric units : 0002695
12. II. MEASUREMENT / B. Direct and Indirect Measures / 1. Estimation and Identification / a. Weight and mass : 0002608
13. II. MEASUREMENT / B. Direct and Indirect Measures / 1. Estimation and Identification / b. Length and distance : 0001047
14. II. MEASUREMENT / B. Direct and Indirect Measures / 1. Estimation and Identification / c. Temperature : 0002703
15. III. GEOMETRY AND SPATIAL SENSE / B. Angles / 1. Angles / a. Angles : 0000489
16. III. GEOMETRY AND SPATIAL SENSE / C. Circles / 1. Characteristics and Measurement / b. Area and circumference : 0001713
17. III. GEOMETRY AND SPATIAL SENSE / E. Right Triangles / 1. Pythagorean Theorem / a. Pythagorean theorem : 0002727
18. III. GEOMETRY AND SPATIAL SENSE / G. Two and Three-dimensional Shapes / 1. Basic Properties / a. Regular and irregular shapes : 0001403
19. III. GEOMETRY AND SPATIAL SENSE / G. Two and Three-dimensional Shapes / 2. Measurement / a. Area, volume, and surface area : 0001645
20. IV. THE COORDINATE PLANE / A. Number Line Graphing / 1. Real and Complex Number Systems / a. Graphing specific points : 0000697
21. IV. THE COORDINATE PLANE / B. Geometric Measurements / 1. Rectangular Coordinate Systems / a. Properties of lines : 0002935
22. V. ALGEBRAIC THINKING / A. Variable Representation / 1. Translating Number and Word Problems Using Var. / a. Equations : 0000807
23. V. ALGEBRAIC THINKING / A. Variable Representation / 1. Translating Number and Word Problems Using Var. / a. Equations : 0002303
24. V. ALGEBRAIC THINKING / B. Equations and Inequalities / 1. One- and Two-step Problem Solving / a. Plugging into a given equation : 0000008
25. V. ALGEBRAIC THINKING / B. Equations and Inequalities / 1. One- and Two-step Problem Solving / a. Plugging into a given equation : 0002328
26. V. ALGEBRAIC THINKING / B. Equations and Inequalities / 2. Simplification / a. Simplification : 0003152
27. V. ALGEBRAIC THINKING / C. Laws and Properties: Associative, Comm., Dist. / 1. Understand and Apply Properties with Operations / a. Addition and subtraction : 0001795
28. V. ALGEBRAIC THINKING / C. Laws and Properties: Associative, Comm., Dist. / 1. Understand and Apply Properties with Operations / b. Multiplication and division : 0002035
29. VI. DATA ANALYSIS AND PROBABILITY / A. Information Management / 1. Data Collection and Organization / a. Tables : 0000710
30. VI. DATA ANALYSIS AND PROBABILITY / B. Probability / 1. Patterns and Predictions / b. Permutations and combinations : 0002305
31. VI. DATA ANALYSIS AND PROBABILITY / B. Probability / 1. Patterns and Predictions / c. Odds : 0002866
32. VI. DATA ANALYSIS AND PROBABILITY / C. Statistical Methods / 1. Statistical Measures and Data Comparison / a. Central tendency: mean, median, mode : 0001708
33. VII. PATTERNS AND FUNCTIONS / B. Functions / 1. Rules and Algebraic Expressions / b. Identification : 0001552
34. VII. PATTERNS AND FUNCTIONS / B. Functions / 1. Rules and Algebraic Expressions / b. Identification : 0000035
35. VII. PATTERNS AND FUNCTIONS / A. Patterns: Identification, Representation / 1. Numerical and Geometric Patterns / a. Numeric : 0003054
36. VII. PATTERNS AND FUNCTIONS / A. Patterns: Identification, Representation / 1. Numerical and Geometric Patterns / a. Numeric : 0000024

Eduware Genealogy by Question

37. VI. DATA ANALYSIS AND PROBABILITY / C. Statistical Methods / 1. Statistical Measures and Data Comparison / a. Central tendency: mean, median, mode : 0001612
38. VI. DATA ANALYSIS AND PROBABILITY / C. Statistical Methods / 1. Statistical Measures and Data Comparison / a. Central tendency: mean, median, mode : 0001613
39. VI. DATA ANALYSIS AND PROBABILITY / C. Statistical Methods / 1. Statistical Measures and Data Comparison / a. Central tendency: mean, median, mode : 0001614
40. VI. DATA ANALYSIS AND PROBABILITY / C. Statistical Methods / 1. Statistical Measures and Data Comparison / a. Central tendency: mean, median, mode : 0000576
41. VII. PATTERNS AND FUNCTIONS / A. Patterns: Identification, Representation / 1. Numerical and Geometric Patterns / a. Numeric : 0000124

State Genealogy by Question
Displaying STANDARDS QUESTION ID

1. Grades 6-8: E. Data Analysis and Probability / 1: The student understands and uses the tools of data analysis for managing information. / MA.E.1.3.1 Collects organizes and displays data in a variety of forms including tables line graphs charts bar graphs to determine how different ways of presenting data can lead to different interpretations.
Grades 6-8: E. Data Analysis and Probability / 3: The student uses statistical methods to make inferences and valid arguments about real-world situations. / MA.E.3.3.1 Formulates hypotheses designs experiments collects and interprets data and evaluates hypotheses by making inferences and drawing conclusions based on statistics (range mean median and mode) and tables graphs and charts. / : 0000547
2. Grades 6-8: E. Data Analysis and Probability / 1: The student understands and uses the tools of data analysis for managing information. / MA.E.1.3.1 Collects organizes and displays data in a variety of forms including tables line graphs charts bar graphs to determine how different ways of presenting data can lead to different interpretations.
Grades 6-8: E. Data Analysis and Probability / 3: The student uses statistical methods to make inferences and valid arguments about real-world situations. / MA.E.3.3.1 Formulates hypotheses designs experiments collects and interprets data and evaluates hypotheses by making inferences and drawing conclusions based on statistics (range mean median and mode) and tables graphs and charts. / : 0000548
3. Grades 6-8: A. Number Sense Concepts and Operations / 1: The student understands the different ways numbers are represented and used in the real world. / MA.A.1.3.1 Associates verbal names written word names and standard numerals with integers fractions decimals; numbers expressed as percents; numbers with exponents; numbers in scientific notation; radicals; absolute value; and ratios.
Grades 6-8: A. Number Sense Concepts and Operations / 1: The student understands the different ways numbers are represented and used in the real world. / MA.A.1.3.2 Understands the relative size of integers fractions and decimals; numbers expressed as percents; numbers with exponents; numbers in scientific notation; radicals; absolute value; and ratios. /
Grades 6-8: A. Number Sense Concepts and Operations / 1: The student understands the different ways numbers are represented and used in the real world. / MA.A.1.3.3 Understands concrete and symbolic representations of rational numbers and irrational numbers in real-world situations. /
Grades 6-8: A. Number Sense Concepts and Operations / 1: The student understands the different ways numbers are represented and used in the real world. / MA.A.1.3.4 Understands that numbers can be represented in a variety of equivalent forms including integers fractions decimals percents scientific notation exponents radicals and absolute value. /
Grades 6-8: A. Number Sense Concepts and Operations / 2: The student understands number systems. / MA.A.2.3.1 Understands and uses exponential and scientific notation. / : 0002797
4. Grades 6-8: A. Number Sense Concepts and Operations / 1: The student understands the different ways numbers are represented and used in the real world. / MA.A.1.3.1 Associates verbal names written word names and standard numerals with integers fractions decimals; numbers expressed as percents; numbers with exponents; numbers in scientific notation; radicals; absolute value; and ratios.
Grades 6-8: A. Number Sense Concepts and Operations / 1: The student understands the different ways numbers are represented and used in the real world. / MA.A.1.3.2 Understands the relative size of integers fractions and decimals; numbers expressed as percents; numbers with exponents; numbers in scientific notation; radicals; absolute value; and ratios. /
Grades 6-8: A. Number Sense Concepts and Operations / 1: The student understands the different ways numbers are represented and used in the real world. / MA.A.1.3.4 Understands that numbers can be represented in a variety of equivalent forms including integers fractions decimals percents scientific notation exponents radicals and absolute value. /
Grades 6-8: A. Number Sense Concepts and Operations / 2: The student understands number systems. / MA.A.2.3.1 Understands and uses exponential and scientific notation. / : 0000369
5. (none) 0001431
6. (none) 0002420
7. Grades 6-8: A. Number Sense Concepts and Operations / 1: The student understands the different ways numbers are represented and used in the real world. / MA.A.1.3.1 Associates verbal names written word names and standard numerals with integers fractions decimals; numbers expressed as percents; numbers with exponents; numbers in scientific notation; radicals; absolute value; and ratios.
Grades 6-8: A. Number Sense Concepts and Operations / 1: The student understands the different ways numbers are represented and used in the real world. / MA.A.1.3.2 Understands the relative size of integers fractions and decimals; numbers expressed as percents; numbers with exponents; numbers in scientific notation; radicals; absolute value; and ratios. / : 0000101
8. Grades 6-8: A. Number Sense Concepts and Operations / 1: The student understands the different ways numbers are represented and used in the real world. / MA.A.1.3.1 Associates verbal names written word names and standard numerals with integers fractions decimals; numbers expressed as percents; numbers with exponents; numbers in scientific notation; radicals; absolute value; and ratios.
Grades 6-8: A. Number Sense Concepts and Operations / 1: The student understands the different ways numbers are represented and used in the real world. / MA.A.1.3.2 Understands the relative size of integers fractions and decimals; numbers expressed as percents; numbers with exponents; numbers in scientific notation; radicals; absolute value; and ratios. /
Grades 6-8: A. Number Sense Concepts and Operations / 1: The student understands the different ways numbers are represented and used in the real world. / MA.A.1.3.4 Understands that numbers can be represented in a variety of equivalent forms including integers fractions decimals percents scientific notation exponents radicals and absolute value. / : 0000163
9. Grades 6-8: A. Number Sense Concepts and Operations / 1: The student understands the different ways numbers are represented and used in the real world. / MA.A.1.3.1 Associates verbal names written word names and standard numerals with integers fractions decimals; numbers expressed as percents; numbers with exponents; numbers in scientific notation; radicals; absolute value; and ratios.

State Genealogy by Question

- Grades 6-8: A. Number Sense Concepts and Operations / 1: The student understands the different ways numbers are represented and used in the real world. / MA.A.1.3.2 Understands the relative size of integers fractions and decimals; numbers expressed as percents; numbers with exponents; numbers in scientific notation; radicals; absolute value; and ratios. / : 0001878
10. Grades 6-8: B. Measurement / 3: The student estimates measurements in real-world problem situations. / MA.B.3.3.1 Solves real-world and mathematical problems involving estimates of measurements including length time weight/mass temperature money perimeter area and volume in either customary or metric units. : 0000590
11. Grades 6-8: B. Measurement / 2: The student compares contrasts and converts within systems of measurement (both standard/nonstandard and metric/customary). / MA.B.2.3.2 Solves problems involving units of measure and converts answers to a larger or smaller unit within either the metric or customary system. : 0002695
12. Grades 6-8: B. Measurement / 2: The student compares contrasts and converts within systems of measurement (both standard/nonstandard and metric/customary). / MA.B.2.3.1 Uses direct (measured) and indirect (not measured) measures to compare a given characteristic in either metric or customary units.
Grades 6-8: B. Measurement / 3: The student estimates measurements in real-world problem situations. / MA.B.3.3.1 Solves real-world and mathematical problems involving estimates of measurements including length time weight/mass temperature money perimeter area and volume in either customary or metric units. / : 0002608
13. Grades 6-8: B. Measurement / 2: The student compares contrasts and converts within systems of measurement (both standard/nonstandard and metric/customary). / MA.B.2.3.1 Uses direct (measured) and indirect (not measured) measures to compare a given characteristic in either metric or customary units.
Grades 6-8: B. Measurement / 3: The student estimates measurements in real-world problem situations. / MA.B.3.3.1 Solves real-world and mathematical problems involving estimates of measurements including length time weight/mass temperature money perimeter area and volume in either customary or metric units. / : 0001047
14. Grades 6-8: B. Measurement / 3: The student estimates measurements in real-world problem situations. / MA.B.3.3.1 Solves real-world and mathematical problems involving estimates of measurements including length time weight/mass temperature money perimeter area and volume in either customary or metric units. : 0002703
15. Grades 6-8: B. Measurement / 1: The student measures quantities in the real world and uses the measures to solve problems. / MA.B.1.3.2 Uses concrete and graphic models to derive formulas for finding rates distance time and angle measures. : 0000489
16. Grades 6-8: B. Measurement / 1: The student measures quantities in the real world and uses the measures to solve problems. / MA.B.1.3.1 Uses concrete and graphic models to derive formulas for finding perimeter area surface area circumference and volume of two- and three-dimensional shapes including rectangular solids and cylinders. : 0001713
17. (none) 0002727
18. Grades 6-8: C. Geometry and Spatial Sense / 1: The student describes draws identifies and analyzes two- and three-dimensional shapes. / MA.C.1.3.1 Understands the basic properties of and relationships pertaining to regular and irregular geometric shapes in two and three dimensions. : 0001403
19. Grades 6-8: B. Measurement / 1: The student measures quantities in the real world and uses the measures to solve problems. / MA.B.1.3.1 Uses concrete and graphic models to derive formulas for finding perimeter area surface area circumference and volume of two- and three-dimensional shapes including rectangular solids and cylinders. : 0001645
20. Grades 6-8: C. Geometry and Spatial Sense / 3: The student uses coordinate geometry to locate objects in both two and three dimensions and to describe objects algebraically. / MA.C.3.3.2 Identifies and plots ordered pairs in all four quadrants of a rectangular coordinate system (graph) and applies simple properties of lines. : 0000697
21. (none) 0002935
22. Grades 6-8: D. Algebraic Thinking / 1: The student describes analyzes and generalizes a wide variety of patterns relations and functions. / MA.D.1.3.2 Creates and interprets tables graphs equations and verbal descriptions to explain cause-and-effect relationships. : 0000807
23. Grades 6-8: D. Algebraic Thinking / 1: The student describes analyzes and generalizes a wide variety of patterns relations and functions. / MA.D.1.3.2 Creates and interprets tables graphs equations and verbal descriptions to explain cause-and-effect relationships. : 0002303
24. Grades 6-8: D. Algebraic Thinking / 2: The student uses expressions equations inequalities graphs and formulas to represent and interpret situations. / MA.D.2.3.1 Represents and solves real-world problems graphically with algebraic expressions equations and inequalities. : 0000008
25. Grades 6-8: D. Algebraic Thinking / 2: The student uses expressions equations inequalities graphs and formulas to represent and interpret situations. / MA.D.2.3.1 Represents and solves real-world problems graphically with algebraic expressions equations and inequalities. : 0002328
26. (none) 0003152
27. Grades 6-8: A. Number Sense Concepts and Operations / 3: The student understands the effects of operations on numbers and the relationships among these operations selects appropriate operations and computes for problem solving. / MA.A.3.3.1 Understands and explains the effects of addition subtraction multiplication and division on whole numbers fractions including mixed numbers and decimals including the inverse relationships of positive and negative numbers. : 0001795
28. (none) 0002035
29. Grades 6-8: E. Data Analysis and Probability / 1: The student understands and uses the tools of data analysis for managing information. / MA.E.1.3.1 Collects organizes and displays data in a variety of forms including tables line graphs charts bar graphs to determine how different ways of presenting data can lead to different interpretations.

State Genealogy by Question

- Grades 6-8: E. Data Analysis and Probability / 3: The student uses statistical methods to make inferences and valid arguments about real-world situations. / MA.E.3.3.1 Formulates hypotheses designs experiments collects and interprets data and evaluates hypotheses by making inferences and drawing conclusions based on statistics (range mean median and mode) and tables graphs and charts. / : 0000710
30. (none) 0002305
31. Grades 6-8: E. Data Analysis and Probability / 2: The student identifies patterns and makes predictions from an orderly display of data using concepts of probability and statistics. / MA.E.2.3.2 Determines odds for and odds against a given situation. : 0002866
32. Grades 6-8: E. Data Analysis and Probability / 1: The student understands and uses the tools of data analysis for managing information. / MA.E.1.3.2 Understands and applies the concepts of range and central tendency (mean median and mode).
Grades 6-8: E. Data Analysis and Probability / 1: The student understands and uses the tools of data analysis for managing information. / MA.E.1.3.3 Analyzes real-world data by applying appropriate formulas for measures of central tendency and organizing data in a quality display using appropriate technology including calculators and computers. /
Grades 6-8: E. Data Analysis and Probability / 3: The student uses statistical methods to make inferences and valid arguments about real-world situations. / MA.E.3.3.1 Formulates hypotheses designs experiments collects and interprets data and evaluates hypotheses by making inferences and drawing conclusions based on statistics (range mean median and mode) and tables graphs and charts. / : 0001708
33. (none) 0001552
34. (none) 0000035
35. (none) 0003054
36. (none) 0000024
37. Grades 6-8: E. Data Analysis and Probability / 1: The student understands and uses the tools of data analysis for managing information. / MA.E.1.3.2 Understands and applies the concepts of range and central tendency (mean median and mode).
Grades 6-8: E. Data Analysis and Probability / 1: The student understands and uses the tools of data analysis for managing information. / MA.E.1.3.3 Analyzes real-world data by applying appropriate formulas for measures of central tendency and organizing data in a quality display using appropriate technology including calculators and computers. /
Grades 6-8: E. Data Analysis and Probability / 3: The student uses statistical methods to make inferences and valid arguments about real-world situations. / MA.E.3.3.1 Formulates hypotheses designs experiments collects and interprets data and evaluates hypotheses by making inferences and drawing conclusions based on statistics (range mean median and mode) and tables graphs and charts. / : 0001612
38. Grades 6-8: E. Data Analysis and Probability / 1: The student understands and uses the tools of data analysis for managing information. / MA.E.1.3.2 Understands and applies the concepts of range and central tendency (mean median and mode).
Grades 6-8: E. Data Analysis and Probability / 1: The student understands and uses the tools of data analysis for managing information. / MA.E.1.3.3 Analyzes real-world data by applying appropriate formulas for measures of central tendency and organizing data in a quality display using appropriate technology including calculators and computers. /
Grades 6-8: E. Data Analysis and Probability / 3: The student uses statistical methods to make inferences and valid arguments about real-world situations. / MA.E.3.3.1 Formulates hypotheses designs experiments collects and interprets data and evaluates hypotheses by making inferences and drawing conclusions based on statistics (range mean median and mode) and tables graphs and charts. / : 0001613
39. Grades 6-8: E. Data Analysis and Probability / 1: The student understands and uses the tools of data analysis for managing information. / MA.E.1.3.2 Understands and applies the concepts of range and central tendency (mean median and mode).
Grades 6-8: E. Data Analysis and Probability / 1: The student understands and uses the tools of data analysis for managing information. / MA.E.1.3.3 Analyzes real-world data by applying appropriate formulas for measures of central tendency and organizing data in a quality display using appropriate technology including calculators and computers. /
Grades 6-8: E. Data Analysis and Probability / 3: The student uses statistical methods to make inferences and valid arguments about real-world situations. / MA.E.3.3.1 Formulates hypotheses designs experiments collects and interprets data and evaluates hypotheses by making inferences and drawing conclusions based on statistics (range mean median and mode) and tables graphs and charts. / : 0001614
40. Grades 6-8: E. Data Analysis and Probability / 1: The student understands and uses the tools of data analysis for managing information. / MA.E.1.3.2 Understands and applies the concepts of range and central tendency (mean median and mode).
Grades 6-8: E. Data Analysis and Probability / 1: The student understands and uses the tools of data analysis for managing information. / MA.E.1.3.3 Analyzes real-world data by applying appropriate formulas for measures of central tendency and organizing data in a quality display using appropriate technology including calculators and computers. /
Grades 6-8: E. Data Analysis and Probability / 3: The student uses statistical methods to make inferences and valid arguments about real-world situations. / MA.E.3.3.1 Formulates hypotheses designs experiments collects and interprets data and evaluates hypotheses by making inferences and drawing conclusions based on statistics (range mean median and mode) and tables graphs and charts. / : 0000576
41. (none) 0000124

Eduware Genealogy by Category

- 1: I. NUMBER SENSE, CONCEPTS, AND OPERATIONS\A. Number Representation\2. Equivalent Forms and Symbols\ a. Int., frac., dec., %, sci. not., exp., - (3)
- 1: I. NUMBER SENSE, CONCEPTS, AND OPERATIONS\C. Operations\1. Selection and Comp. of Operations\ c. Square roots and exponents - (4)
- 2: I. NUMBER SENSE, CONCEPTS, AND OPERATIONS\C. Operations\2. Estimation\ a. Estimation - (5, 6)
- 2: I. NUMBER SENSE, CONCEPTS, AND OPERATIONS\D. Ratios/Proportions/Percents\1. Interpretation as Part of 100\ a. Base 10 - (7, 9)
- 1: I. NUMBER SENSE, CONCEPTS, AND OPERATIONS\D. Ratios/Proportions/Percents\3. Related Ratios\ a. Comparing ratios - (8)
- 1: II. MEASUREMENT\A. Systems of Measurement\1. Standard/Nonstandard and Metric/Custom\ a. Unit of measure - (10)
- 1: II. MEASUREMENT\A. Systems of Measurement\1. Standard/Nonstandard and Metric/Custom\ b. Conversion within customary or metric u - (11)
- 1: II. MEASUREMENT\B. Direct and Indirect Measures\1. Estimation and Identification\ a. Weight and mass - (12)
- 1: II. MEASUREMENT\B. Direct and Indirect Measures\1. Estimation and Identification\ b. Length and distance - (13)
- 1: II. MEASUREMENT\B. Direct and Indirect Measures\1. Estimation and Identification\ c. Temperature - (14)
- 1: III. GEOMETRY AND SPATIAL SENSE\B. Angles\1. Angles\ a. Angles - (15)
- 1: III. GEOMETRY AND SPATIAL SENSE\C. Circles\1. Characteristics and Measurement\ b. Area and circumference - (16)
- 1: III. GEOMETRY AND SPATIAL SENSE\E. Right Triangles\1. Pythagorean Theorem\ a. Pythagorean theorem - (17)
- 1: III. GEOMETRY AND SPATIAL SENSE\G. Two and Three-dimensional Shapes\1. Basic Properties\ a. Regular and irregular shapes - (18)
- 1: III. GEOMETRY AND SPATIAL SENSE\G. Two and Three-dimensional Shapes\2. Measurement\ a. Area, volume, and surface area - (19)
- 1: IV. THE COORDINATE PLANE\A. Number Line Graphing\1. Real and Complex Number Systems\ a. Graphing specific points - (20)
- 1: IV. THE COORDINATE PLANE\B. Geometric Measurements\1. Rectangular Coordinate Systems\ a. Properties of lines - (21)
- 2: V. ALGEBRAIC THINKING\A. Variable Representation\1. Translating Number and Word Problems Us\ a. Equations - (22, 23)
- 2: V. ALGEBRAIC THINKING\B. Equations and Inequalities\1. One- and Two-step Problem Solving\ a. Plugging into a given equation - (24, 25)
- 1: V. ALGEBRAIC THINKING\B. Equations and Inequalities\2. Simplification\ a. Simplification - (26)
- 1: V. ALGEBRAIC THINKING\C. Laws and Properties: Associative, Comm.\1. Understand and Apply Properties with Op\ a. Addition and subtraction - (27)
- 1: V. ALGEBRAIC THINKING\C. Laws and Properties: Associative, Comm.\1. Understand and Apply Properties with Op\ b. Multiplication and division - (28)
- 1: VI. DATA ANALYSIS AND PROBABILITY\A. Information Management\1. Data Collection and Organization\ a. Tables - (29)
- 2: VI. DATA ANALYSIS AND PROBABILITY\A. Information Management\1. Data Collection and Organization\ b. Graphs: Bar, line, circle - (1, 2)
- 1: VI. DATA ANALYSIS AND PROBABILITY\B. Probability\1. Patterns and Predictions\ b. Permutations and combinations - (30)
- 1: VI. DATA ANALYSIS AND PROBABILITY\B. Probability\1. Patterns and Predictions\ c. Odds - (31)
- 5: VI. DATA ANALYSIS AND PROBABILITY\C. Statistical Methods\1. Statistical Measures and Data Comparison\ a. Central tendency: mean, median, mode - (32, 37, 38, 39, 40)
- 3: VII. PATTERNS AND FUNCTIONS\A. Patterns: Identification, Representatio\1. Numerical and Geometric Patterns\ a. Numeric - (35, 36, 41)
- 2: VII. PATTERNS AND FUNCTIONS\B. Functions\1. Rules and Algebraic Expressions\ b. Identification - (33, 34)

State Genealogy by Category

- 5 from Grades 6-8: A. Number Sense Concepts and Operations / 1: The student understands the different ways numbers are represented and used in the real world. / MA.A.1.3.1 Associates verbal names written word names and standard numerals with integers fractions decimals; numbers expressed as percents; numbers with exponents; numbers in scientific notation; radicals; absolute value; and ratios. - (3, 4, 7, 8, 9)
- 5 from Grades 6-8: A. Number Sense Concepts and Operations / 1: The student understands the different ways numbers are represented and used in the real world. / MA.A.1.3.2 Understands the relative size of integers fractions and decimals; numbers expressed as percents; numbers with exponents; numbers in scientific notation; radicals; absolute value; and ratios. - (3, 4, 7, 8, 9)
- 1 from Grades 6-8: A. Number Sense Concepts and Operations / 1: The student understands the different ways numbers are represented and used in the real world. / MA.A.1.3.3 Understands concrete and symbolic representations of rational numbers and irrational numbers in real-world situations. - (3)
- 3 from Grades 6-8: A. Number Sense Concepts and Operations / 1: The student understands the different ways numbers are represented and used in the real world. / MA.A.1.3.4 Understands that numbers can be represented in a variety of equivalent forms including integers fractions decimals percents scientific notation exponents radicals and absolute value. - (3, 4, 8)
- 2 from Grades 6-8: A. Number Sense Concepts and Operations / 2: The student understands number systems. / MA.A.2.3.1 Understands and uses exponential and scientific notation. - (3, 4)
- 1 from Grades 6-8: A. Number Sense Concepts and Operations / 3: The student understands the effects of operations on numbers and the relationships among these operations selects appropriate operations and computes for problem solving. / MA.A.3.3.1 Understands and explains the effects of addition subtraction multiplication and division on whole numbers fractions including mixed numbers and decimals including the inverse relationships of positive and negative numbers. - (27)
- 2 from Grades 6-8: B. Measurement / 1: The student measures quantities in the real world and uses the measures to solve problems. / MA.B.1.3.1 Uses concrete and graphic models to derive formulas for finding perimeter area surface area circumference and volume of two- and three-dimensional shapes including rectangular solids and cylinders. - (16, 19)
- 1 from Grades 6-8: B. Measurement / 1: The student measures quantities in the real world and uses the measures to solve problems. / MA.B.1.3.2 Uses concrete and graphic models to derive formulas for finding rates distance time and angle measures. - (15)
- 2 from Grades 6-8: B. Measurement / 2: The student compares contrasts and converts within systems of measurement (both standard/nonstandard and metric/customary). / MA.B.2.3.1 Uses direct (measured) and indirect (not measured) measures to compare a given characteristic in either metric or customary units. - (12, 13)
- 1 from Grades 6-8: B. Measurement / 2: The student compares contrasts and converts within systems of measurement (both standard/nonstandard and metric/customary). / MA.B.2.3.2 Solves problems involving units of measure and converts answers to a larger or smaller unit within either the metric or customary system. - (11)
- 4 from Grades 6-8: B. Measurement / 3: The student estimates measurements in real-world problem situations. / MA.B.3.3.1 Solves real-world and mathematical problems involving estimates of measurements including length time weight/mass temperature money perimeter area and volume in either customary or metric units. - (10, 12, 13, 14)
- 1 from Grades 6-8: C. Geometry and Spatial Sense / 1: The student describes draws identifies and analyzes two- and three-dimensional shapes. / MA.C.1.3.1 Understands the basic properties of and relationships pertaining to regular and irregular geometric shapes in two and three dimensions. - (18)
- 1 from Grades 6-8: C. Geometry and Spatial Sense / 3: The student uses coordinate geometry to locate objects in both two and three dimensions and to describe objects algebraically. / MA.C.3.3.2 Identifies and plots ordered pairs in all four quadrants of a rectangular coordinate system (graph) and applies simple properties of lines. - (20)
- 2 from Grades 6-8: D. Algebraic Thinking / 1: The student describes analyzes and generalizes a wide variety of patterns relations and functions. / MA.D.1.3.2 Creates and interprets tables graphs equations and verbal descriptions to explain cause-and-effect relationships. - (22, 23)
- 2 from Grades 6-8: D. Algebraic Thinking / 2: The student uses expressions equations inequalities graphs and formulas to represent and interpret situations. / MA.D.2.3.1 Represents and solves real-world problems graphically with algebraic expressions equations and inequalities. - (24, 25)
- 3 from Grades 6-8: E. Data Analysis and Probability / 1: The student understands and uses the tools of data analysis for managing information. / MA.E.1.3.1 Collects organizes and displays data in a variety of forms including tables line graphs charts bar graphs to determine how different ways of presenting data can lead to different interpretations. - (1, 2, 29)
- 5 from Grades 6-8: E. Data Analysis and Probability / 1: The student understands and uses the tools of data analysis for managing information. / MA.E.1.3.2 Understands and applies the concepts of range and central tendency (mean median and mode). - (32, 37, 38, 39, 40)
- 5 from Grades 6-8: E. Data Analysis and Probability / 1: The student understands and uses the tools of data analysis for managing information. / MA.E.1.3.3 Analyzes real-world data by applying appropriate formulas for measures of central tendency and organizing data in a quality display using appropriate technology including calculators and computers. - (32, 37, 38, 39, 40)
- 1 from Grades 6-8: E. Data Analysis and Probability / 2: The student identifies patterns and makes predictions from an orderly display of data using concepts of probability and statistics. / MA.E.2.3.2 Determines odds for and odds against a given situation. - (31)
- 8 from Grades 6-8: E. Data Analysis and Probability / 3: The student uses statistical methods to make inferences and valid arguments about real-world situations. / MA.E.3.3.1 Formulates hypotheses designs experiments collects and interprets data and evaluates hypotheses by making inferences and drawing conclusions based on statistics (range mean median and mode) and tables graphs and charts. - (1, 2, 29, 32, 37, 38, 39, 40)

Math Grades 7-8 Sample Exam

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