Name _____ Class _____ Score _____

Intermediate Math 1 End of Level Review

This assignment will count as a 100 point test. Circle the correct answer for each question.
Show your work on lined paper or neatly in the margin. Answer keys are available in the classroom.
This must be graded and ready to hand in on or before April 26, 2018 (A Day) and April 27, 2018 (B Day)

1. What is the unit rate if there are 1,760 Calories in 8 servings? **(CH 1)**

A. 176 Calories per serving
B. 220 Calories per serving
C. 228 Calories per serving
D. 14,080 Calories per serving

2. Which size of yogurt shown in the table has the lowest unit price? **(CH 1)**

A. 6 oz.
B. 8 oz.
C. 10 oz.
D. 32 oz.

Size (oz.)	Cost ($)
6	0.89
8	1.04
10	1.69
32	4.79

3. What is the unit rate if there are 92 miles driven using 4 gallons of gas? **(CH 1)**

A. 21 miles per gallon
B. 22 miles per gallon
C. 23 miles per gallon
D. 96 miles per gallon

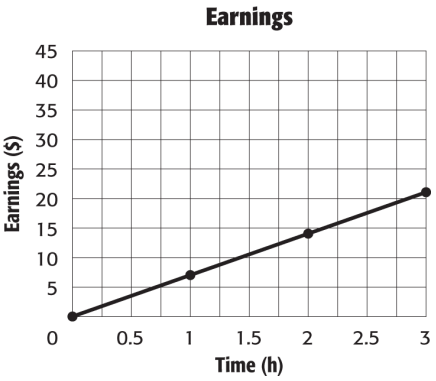
Solve each proportion. (CH 1)

4. $\frac{118}{13} = \frac{59}{z}$ A. 1.5 B. 6.5 C. 26 D. 535.5

5. $\frac{3}{16} = \frac{9}{y}$ A. 32 B. 48 C. 60 D. 72

6. $\frac{5}{33} = \frac{x}{105.6}$ A. 15 B. 118 C. 16 D. 59.4

7. The graph shows the amount of money Amy earns each hour she works. Which statement about the graph is not true? **(CH 1)**



A. The graph shows a proportional relationship.

B. The graph shows a non- proportional relationship.

C. The unit rate is $\frac{\$7.50}{\text{hour}}$.

D. The line is straight.

8. The table shows the cost for ordering a certain number of pizzas. What is the value of x if the cost is proportional to the number of pizzas ordered? **(CH 1)**

Pizzas Ordered	2	3	4	5
Cost	$19.98	$29.97	$39.96	*x*

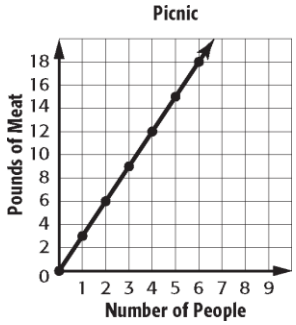
A. $9.99 B. $29.97 C. $49.95 D. $59.94

9. What is the constant rate of change of the table below? **(CH 1)**

(x) - Hours	1	2	4	8
(y) - Distance	50	100	200	400

A. 50 B. 25 C. $\frac{1}{25}$ D. $\frac{1}{50}$

10. What is the constant of proportionality of the line in the graph below? **(CH 1)**



A. 2.5 B. 3

C. 7.5 D. 10

11. What is the constant of proportionality of the linear function shown in the table below? **(CH 1)**

Time, x	1	2	3	4
Cost ($), y	25	50	75	100

A. 2 B. 12 C. 25 D. 50

Simplify. (CH 1)

12. $\frac{\frac{5}{8}}{3}$ A. $\frac{15}{24}$ B. $\frac{10}{3}$ C. $\frac{12}{25}$ D. $\frac{5}{24}$

13. $\frac{\frac{10}{3}}{\frac{2}{3}}$ A. 5 B. $\frac{10}{3}$ C. $\frac{10}{9}$ D. $\frac{20}{9}$

Find each number. If necessary, round to the nearest tenth. (CH 2)

14. What is 138% of 250?

A. 0.15 B. 345 C. 690 D. 950

15. What percent of 80 is 8?

A. 0.1% B. 1% C. 10% D. 72%

16. $\frac{3}{4}$% of 387

A. 300 B. 40 C. 2.9 D. 0.4

17. What number is 74% of 58?

A 1.3 B. 78.4 C. 42.9 D. 4,292

Find each percent of change. If necessary, round to the nearest whole percent. State whether the percent of change is an increase or decrease. (CH 2)

18. Sue bought a pair of boots for $72. The next week she noticed that the price for the same pair of shoes was now $57. Find the percent of change.

A. 20% Increase B. 20% Decrease C. 21% Increase D. 21% Decrease

Find each percent of change. If necessary, round to the nearest whole percent. State whether the percent of change is an increase or decrease. (CH 2)

19. 55 to 81

A. 42% Increase B. 48% Decrease C. 47% Increase D. 47% Decrease

Find the simple interest paid to the nearest cent for each principal, interest rate, and time. (CH 2)

20. $7,540, 2%, 7 years

A. $10,556 B. $1,055.60 C. $1,550.60 D. $1,555.00

21. $250, 3.8%, 3 years

A. $2.81 B. $28.05 C. $28.50 D. $280.50

Find the final cost for each of the following after adding on the tax/tip or subtracting the discount. (CH 2)

22. Bill bought a baseball jersey for $75.90. The sales tax rate is 6.5%. What is the total cost that Bill will pay?

A. $80.83 B. $4.94 C. $70. 95 D. $81.00

23. Mrs. Willhite bought a warm coat that was originally priced at $125. She received a 35% discount. What is the sale price of the coat?

A. $43.75 B. $168.75 C. $125.35 D. $81.25

Evaluate each expression. (CH 3)

24. $| -10 | + | -2 |$

A. 8 B. -8 C. 12 D. -12

25. $|- 8 | - | 4|$

A. 4 B. -4 C. 12 D. -12

26. $- | -12 | - | -5 |$

A. 17 B. -17 C. 7 D. -7

27. $-4 - (-9)$

A. 5 B. -13 C. 13 D. -5

28. 5 * (–8)

A. 40 B. -3 C. -40 D. -13

29. -45 ÷ (-9)

A. 5 B. -5 C. -36 D. -54

30. What is the decimal equivalent of $\frac{18}{42}$? Round to the hundredths place. **(CH 4)**

A. 0.42 B. 0.42857 C. 0.43 D. 0.4

Write each fraction or mixed number as a decimal. Use bar notation if the decimal is a repeating decimal. (CH 4)

31. $-\frac{8}{9}$

A. $0.\overline{8}$ B. $-0.\overline{8}9$ C. $-0.\overline{8}$ D. -0.9

32. $-5\frac{14}{16}$

A. 5.875 B. $-5.\overline{875}$ C. -5.875 D. -5.9

Write each decimal as a fraction in simplest form. (CH 4)

33. 2.54

A. $\frac{54}{100}$ B. $2\frac{27}{50}$ C. $2\frac{54}{100}$ D. $\frac{54}{50}$

34. – 0.464

A. $-\frac{232}{500}$ B. $-\frac{464}{1000}$ C. $-\frac{464}{100}$ D. $-\frac{58}{125}$

Replace each ● with <, >, or = to make a true sentence. (CH 4)

35. $\frac{9}{69}$ ● $\frac{3}{23}$

A. < **B.** > **C.** =

36. $-\frac{41}{50}$ ● $-\frac{74}{80}$

A. < **B.** > **C.** =

Find the value of each expression in simplest form. (CH 4)

37. $-\frac{8}{12}+\left(-\frac{3}{12}\right)$

A. $-\frac{11}{12}$ B. $-\frac{5}{12}$ C. $\frac{11}{12}$ D. $\frac{5}{12}$

38. $10\frac{1}{8}-5\frac{5}{8}$

A. $5\frac{1}{2}$ B. $4\frac{1}{2}$ C. $5\frac{6}{8}$ D. $5\frac{4}{8}$

39. $3\frac{1}{2}\div 6\frac{3}{4}$

A. $\frac{27}{8}$ B. $\frac{28}{54}$ C. $\frac{14}{27}$ D. $\frac{27}{14}$

40. $3\frac{1}{2}*\frac{6}{8}$

A. $\frac{5}{8}$ B. $2\frac{10}{16}$ C. $3\frac{6}{8}$ D. $2\frac{5}{8}$

41. Mr. Becar bought a box of donuts. He gave $\frac{1}{8}$ of it to Mr. Felix, and $\frac{1}{4}$ to Mr. Broadhead and he kept the rest for himself. What fraction did he keep? **(CH 4)**

A. $-\frac{2}{8}$ B. $-\frac{5}{8}$ C. $\frac{5}{8}$ D. $\frac{3}{8}$

Evaluate each expression if x = –2, y = 4, and z = –6. (CH 5)

42. 15 – (–y)

A. 9 B. 19 C. -19 D. -9

43. –2(3z)

A. 36 B. -36 C. 6 D. -6

Evaluate each expression if x = –2, y = 4, and z = –6. (CH 5)

44. $\frac{xy}{2}$

A. 8 B. 4 C. -8 D. -4

45. Using the GCF, which of the following is the factored form of 12x + 24? **(CH 5)**

A. 12(x + 24) B. 2(6x + 12) C. 6(2x + 4) D. 12(x + 2)

46. Add (−2x + 4) + (4x + 6). **(CH 5)**

A. 2x + 10 B. 6x + 10 C. 2x - 2 D. 6x − 2

47. Subtract (−*x* − 3) − (5*x* + 2). **(CH 5)**

A. 4*x* − 11 B. -6x - 5 C. 4x- 5 D. -6*x* + 1

48. Simplify 2*x* + 1 – x + 2. **(CH 5)**

A. 3*x* + 3 B. *x* − 3 C. 3*x* - 1 D. *x* + 3

49. Which property of multiplication is shown by the equation **(CH 5)**
(10 • *y)* • 3*y* = 10 • (y • 3*y*)?

A. Associative C. Commutative
B. Distributive D. Identity

Solve the equation. (CH 6)

50. $\frac{1}{3}$ y = $4\frac{5}{6}$

A. $1\frac{11}{8}$ B. $4\frac{5}{18}$ C. $12\frac{5}{6}$ D. $14\frac{1}{2}$

51. m – 12 = 11

A. –23 B. –1 C. 1 D. 23

52. –3m – 21 = –6

A. –45 B. –5 C. 9 D. –81

53. $-4(x - 11) = 16$

A. $x - 11 = 4$
B. $-4x - 11 = 16$
C. $x - 11 = -4$
D. $-4x + 44 = 64$

54. $7 + \frac{2}{5}x = 1$

A. –15 B. –6 C. –3 D. 15

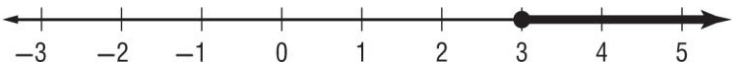
55. In a basketball game, Alex scored 4 points more than twice the number of points Jim scored. Jim scored 3 points. How many points did Alex score? **(CH 6)**

A. 1 point B. 7 points C. 10 points D. 12 points

56. What is the solution of $\frac{y}{-2} \leq 3$? **(CH 6)**

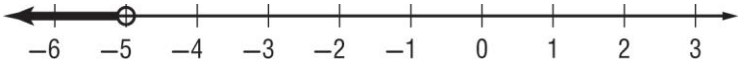
A. $y \leq -6$ B. $y \geq -6$ C. $y \leq -\frac{3}{2}$ D. $y \geq -\frac{3}{2}$

57. What is the graph of the solution set of $b - 4 \geq -1$? **(CH 6)**

A.


B.


C.

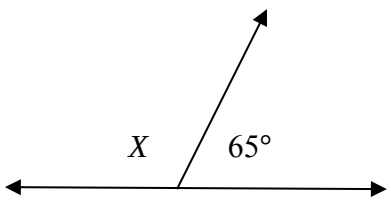

D.


58. What is the solution of $\frac{2}{3}a + 6 > 0$? **(CH 6)**

A. $a > -9$ B. $a < -9$ C. $a > -4$ D. $a < -4$

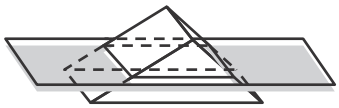
59. What is the measure of $\angle X$ in the figure? **(CH 7)**

A. 25°
B. 65°
C. 115°
D. 125°

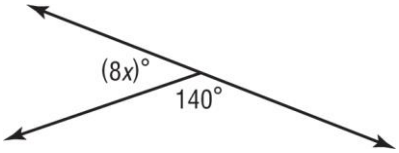


60. Which of the following describes the shape resulting from the cross section below? **(CH 7)**

A. rectangle
B. square
C. triangle
D. parallelogram

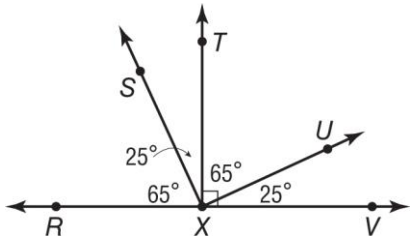


61. What is the value of *x?* **(CH 7)**



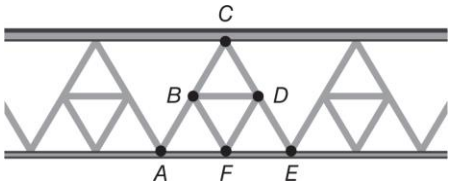
A. 180
B. 90
C. 45
D. 5

62. Which of the following two angles are complementary? **(CH 7)**



A. $\angle RXS$ and $\angle TXU$
B. $\angle SXT$ and $\angle TXU$
C. $\angle RXS$ and $\angle SXV$
D. $\angle SXR$ and $\angle TXU$

63. The bridge structure is supported by the triangular braces as shown.



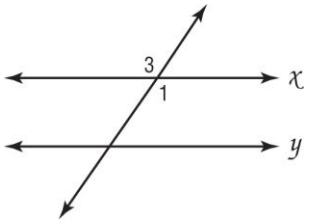
Triangles *ACE* and *ABF* are similar triangles. The scale factor is 0.5. If *CE* = 10 feet, what is the length of *BF*? **(CH 7)**

A. 2.5 ft. B. 6 ft. C. 5 ft. D. 12 ft.

64. A stained glass window is in the shape of an equilateral triangle. What is the measure of one interior angle of the triangle? **(CH 7)**

A. 30° B. 60° C. 90° D. 180°

65. In the figure below, line *x* is parallel to line *y*. What type of angles are ∠1 and ∠3? **(CH 7)**



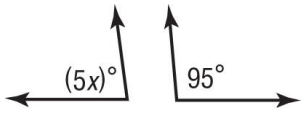
A. vertical angles
B. adjacent angles
C. right angles
D. regular angles

66. Angle A and angle B are supplementary. If $m\angle A = 27°$, then the $m\angle B = ?$ **(CH 7)**

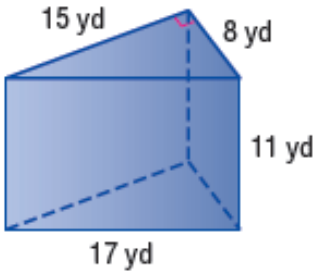
A. 27° B. 153° C. 63° D. 163°

67. The angles shown are supplementary. What is the value of *x*? **(CH 7)**

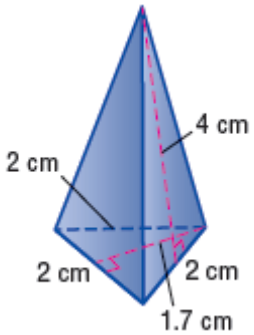
A. 180 B. 27 C. 95 D. 17



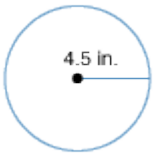
68. Find the volume of the triangular prism. V = Bh **(CH 8)**



69. Find the surface area of the triangular pyramid. **(CH 8)**



70. Find the circumference. Round the answer to the nearest tenth. **(CH 8)**



A. 14.1 in.

B. 28.3 in.

C. 282.6 in.

D. 25.1 in.

71. The Carrillo family has a circular swimming pool with a diameter of 15 feet. Find the area of the pool cover to the nearest tenth. **(CH 8)**

A. 706.9 ft^2

B. 353.4 ft^2

C. 94 ft^2

D. 176.7 ft^2

72. What would be the total number of outcomes in this sample space? Choosing water, milk, juice, or tea; with or without ice; served in a glass or a plastic cup. **(CH9)**

A. 8 B. 10 C. 16 D. 18

73. Mrs. Blair will select a president and a vice-president from a committee of 8 members. In how many different ways can a president and a vice-president be chosen from the committee? **(CH9)**

A. 1,680 B. 336 C. 56 D. 15

For numbers 74 and 75, a box contains 1 green, 2 red, 3 pink, and 4 yellow paper clips. A paper clip is drawn and not replaced. Then a second paper clip is drawn.

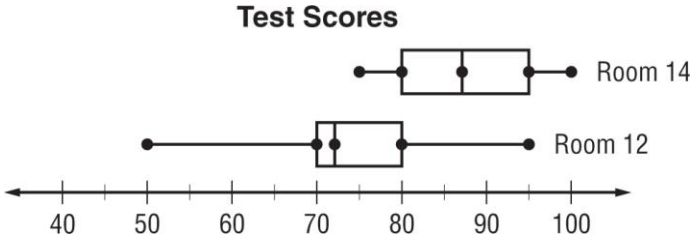
74. What is P (red, then red)? **(CH9)**

A. $\frac{1}{45}$ B. $\frac{2}{45}$ C. $\frac{1}{25}$ D. 25%

75. What is P (green, then pink)? **(CH9)**

A. 3% B. $\frac{1}{30}$ C. $\frac{3}{10}$ D. 0.4

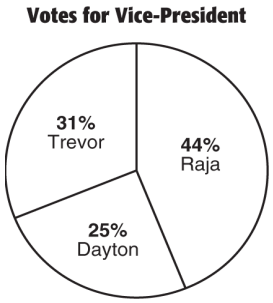
For Exercises 76 and 77, use the box plot that shows students test scores for two classrooms.



76. Which class had a greater range of scores? **(CH10)**

77. Write an inference you can make about the populations. **(CH10)**

78. Based on the circle graph, how many more students voted for Raja than for Dayton if 300 students voted? **(CH10)**



79. A survey found that 78% of students do their homework before 10:00 P.M. Predict how many students out of 975 do their homework before 10:00 P.M. **(CH10)**

For numbers 80 and 81, determine whether each conclusion is valid. Justify your answer.

80. Mr. Dotson wants to know if the neighbors on his street would be interested in a community watch. He surveys every fourth household on the street and concluded that 70% would be interested. **(CH10)**

81. Which of the following samples would be most representative of the entire student population? **(CH10)**

A. surveying every boy in a gym class

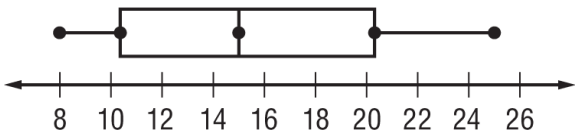
B. surveying every girl in an art class

C. surveying every teacher

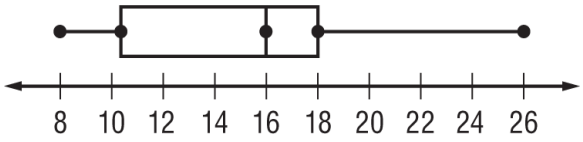
D. surveying every 3rd student who enters the school

82. Which box plot represents the data set 8, 12, 21, 15, 20, 9, 16, 14, and 25? **(CH10)**

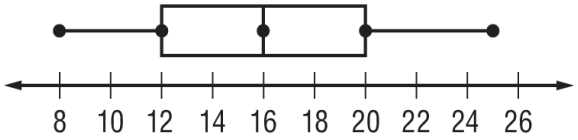
A.



B.



C.



D.