Incoming 7th Grade Honors Summer Assignment

The purpose of this assignment is for you to practice the skills that you learned last year.

There will be a test during the second week of school on this content.

1. Write the rational number $\frac{2}{5}$ as a terminating decimal. **Show work:**

   a. 0.04
   b. 0.2
   c. 0.25
   d. 0.4

2. Write the rational number $4\frac{3}{8}$ as a terminating decimal. **Show work:**

   a. 0.375
   b. 4.0375
   c. 4.375
   d. 4.38

3. Write the rational number $\frac{8}{99}$ as a repeating decimal. **Show work:**

   a. $0.\overline{08}$
   b. $0.0\overline{8}$
   c. $0.\overline{808}$
   d. $0.\overline{8}$

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4. Evaluate the expression $-6 + 9$.

   a. -15
   b. -3
   c. 3
   d. 15

5. Evaluate the expression $-12 - (-4)$.

   a. -16
   b. -8
   c. 8
   d. 16

6. Evaluate the expression $(-8) \bullet 4$.

   a. -32
   b. -4
   c. -2
   d. 32

7. Evaluate the expression $(-35) \div (-7)$.

   a. -42
   b. -5
   c. 5
   d. 7

8. Evaluate $0.25 \bullet 10^2$.

   a. 0.0025
   b. 2.5

   Show work:

   c. 25
   d. 250

9. Evaluate $3.56 \bullet 10^3$.

   a. 0.00356
   b. 356

   Show work:

   c. 3,560
   d. 356,000

10. Evaluate $25.6 \div 1,000$.

    a. 0.0256
    b. 0.256

    Show work:

    c. 256
    d. 25,600

11. Evaluate $86 \div 100$.

    a. 0.0086
    b. 0.086

    Show work:

    c. 0.86
    d. 86,000

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12 Determine and explain if the pair of equations, $x + 8 = 14$ and $x - 6 = 8$, is equivalent or is not equivalent.
Show work:

a. They are equivalent because both have the same solution.
b. They are not equivalent because they do not have the same solution.

13 Determine and explain if the pair of equations, $0.4x + 6 = 2.4x$ and $3x = 9$, is equivalent or is not equivalent.
Show work:

a. They are equivalent because both have the same solution.
b. They are not equivalent because they do not have the same solution.

14 Determine and explain if the pair of equations, $2(x + 1) = 5$ and $2(x + 5) = 10$, is equivalent or is not equivalent.
Show work:

a. They are equivalent because both have the same solution.
b. They are not equivalent because they do not have the same solution.

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15 Solve the equation $2x = 21 - x$. **Show work:**

a. $x = -7$
b. $x = -3$
c. $x = 3$
d. $x = 7$

16 Solve the equation $\frac{1}{4}p = 6 - \frac{1}{2}p$. **Show work:**

a. $p = -24$
b. $p = -8$
c. $p = 8$
d. $p = 24$

17 Solve the equation $5y + 6(3 - y) = 4y - 7$. **Show work:**

a. $y = -5$
b. $y = -\frac{5}{3}$
c. $y = \frac{5}{3}$
d. $y = 5$

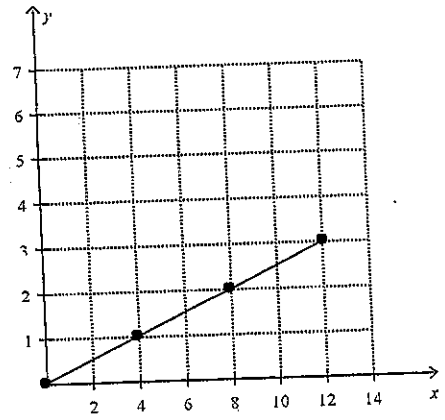
18 Solve the equation $8(n + 3) = 7(n + 4)$. **Show work:**

a. $n = -4$
b. $n = -1$
c. $n = 1$
d. $n = 4$

19. Which table and graph both represent the equation $y = 4x$?

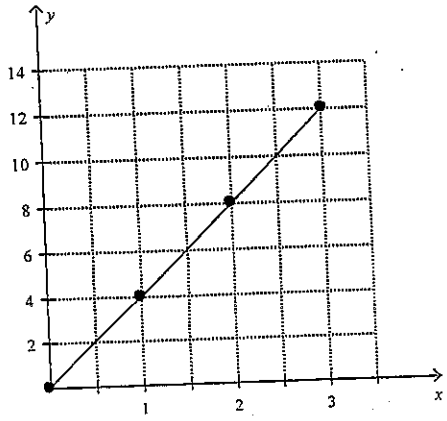
a.

x	0	1	2	3
$y = 4x$	0	4	8	12



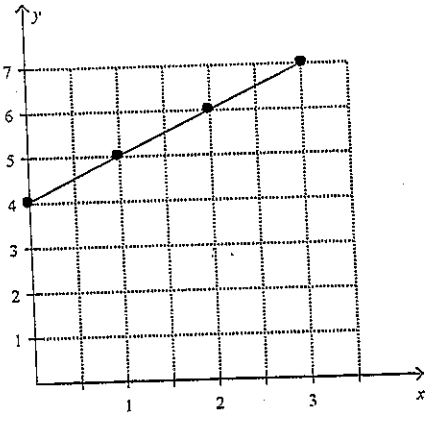
b.

x	0	1	2	3
$y = 4x$	0	4	8	12



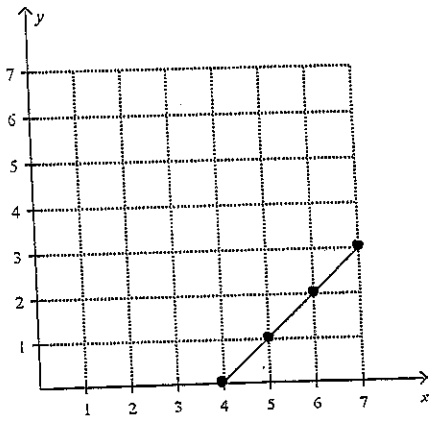
c.

x	0	1	2	3
$y = 4x$	4	5	6	7



d.

x	0	1	2	3
$y = 4x$	4	5	6	7



20. The length of a rectangle is 6 inches shorter than the width. The perimeter of the rectangle is 32 inches. What is the length of the rectangle? **Show work:**

a. 5 inches
b. 8 inches
c. 11 inches
d. 16 inches

21. Of the 56 shirts in a box, three-fourths are a size large. Liz and Diane take all of the larges to sell. If Liz takes 6 more shirts than Diane, how many shirts did Diane take to sell? **Show work:**

a. 18 shirts
b. 24 shirts
c. 25 shirts
d. 31 shirts

22. Paco has 4 albums filled with football cards. Each album contains x football cards. He recently purchased 5 more football cards. What is an expression for the number of football cards Paco has in total?

a. $9x$
b. $5x + 4$
c. $4x + 5$
d. $4x - 5$

23. Karen made n loaves of banana bread. She shared her loaves equally among 3 friends and herself. Then she gave 2 of her loaves to her brother. What is an algebraic expression for the number of loaves she has remaining?

a. $\frac{n}{3} - 2$
b. $\frac{n}{4} - 2$
c. $\frac{n}{3} + 2$
d. $\frac{n}{4} + 2$

24. Evaluate the expression $-3x + 4$ when $x = -5$. **Show work:**

a. -19
b. -11
c. 11
d. 19

25. Evaluate the expression $\frac{n}{6} - 12$ when $n = 24$. **Show work:**

a. -16
b. -8
c. 0
d. 12

26. Evaluate the expression $6 - \frac{3y}{8}$ when $y = 16$. **Show work:**

a. -42
b. -4
c. 0
d. 4

27. Evaluate the expression $12 + \frac{3}{4}z$ when $z = 8$. **Show work:**

a. 9
b. 14
c. 18
d. 20

28. What is the square of -7?

a. -49
b. -14
c. 14
d. 49

29. What is the square of $\frac{3}{5}$?

a. $-\frac{9}{25}$
b. $\frac{9}{25}$
c. $\frac{3}{5}$
d. $\frac{6}{10}$

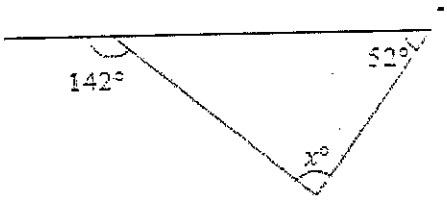
30. What is the square root of 100?

a. -10
b. 10
c. 25
d. 10,000

31. What is the square root of 256?

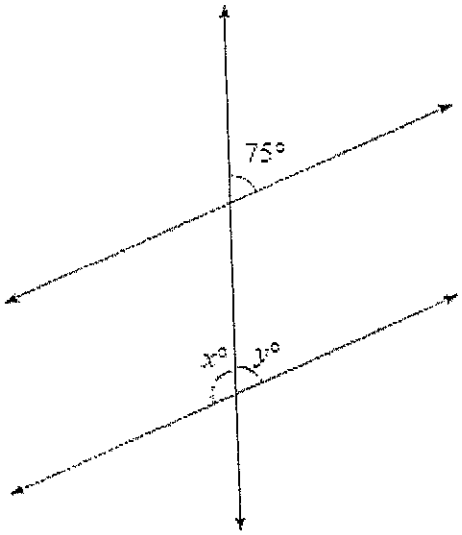
a. 16
b. 18
c. 64
d. 65,536

32. What is the unknown angle measure? **Show work and label diagram:**



a. $x = 38$
b. $x = 42$
c. $x = 52$
d. $x = 90$

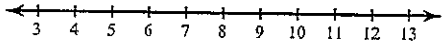
33. Solve for each variable. **Show work and label diagram:**



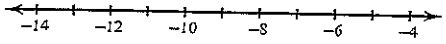
a. $x = 75; y = 105$
b. $x = 105; y = 75$
c. $x = 145; y = 35$
d. $x = 35; y = 145$

Solve each inequality and graph its solution.

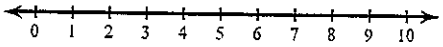
34) $2x + 4 \geq 24$



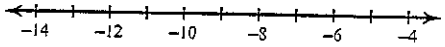
35) $\frac{m}{3} - 3 \leq -6$



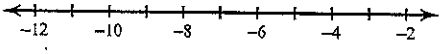
36) $-3(p + 1) \leq -18$



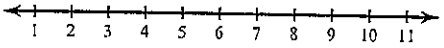
37) $-4(-4 + x) > 56$



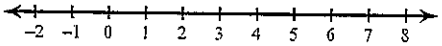
38) $-b - 2 > 8$



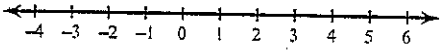
39) $-4(3 + n) > -32$



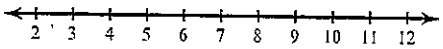
40) $4 + \frac{n}{3} < 6$



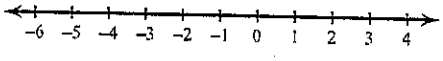
41) $-3(r - 4) \geq 0$



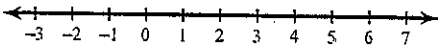
42) $-7x + 7 \leq -56$



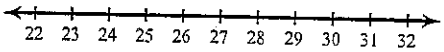
43) $-3(p - 7) \geq 21$



44) $-11x - 4 > -15$



45) $\frac{-9 + a}{15} > 1$



Solve each equation.

46) $6 = \frac{a}{4} + 2$

47) $-6 + \frac{x}{4} = -5$

48) $9x - 7 = -7$

49) $0 = 4 + \frac{n}{5}$

50) $-4 = \frac{r}{20} - 5$

51) $-1 = \frac{5 + x}{6}$

Solve each problem. Round to the nearest tenth or tenth of a percent.

52) What percent of 29 is 3?

53) What percent of 33.5 is 21?

54) What percent of 55 is 34?

55) 41% of 78 is what?

56) 28% of 63 is what?

57) 58% of what is 63.4?

T: SOLVE

58. A sailor on leave drove to Yosemite Park from his home at 60 miles per hour. On his trip home, his rate was 10 miles per hour less, and the trip took 1 hour longer. How far is his home from the park?

59. Two cars leave a restaurant at the same time and travel along a straight highway in opposite directions. At the end of 3 hours, they are 300 miles apart. Find the rate of the slower car if one car travels at a rate 20 miles per hour faster than the other.

60. At 10:30 a.m., a passenger train and a freight train left from stations that were 405 miles apart and traveled toward each other. The rate of the passenger train was 45 miles per hour faster than that of the freight train. If they passed each other at 1:30 p.m., how fast was the passenger train traveling?

61. Susie left her home at 11 a.m. traveling along Route 1 at 30 miles per hour. At 1 p.m., her brother Richard left home and started after her on the same road at 45 miles per hour. At what time did Richard catch up to Susie?

5. How far can a man drive into the country if he drives out at 40 miles per hour, returns over the same road at 30 miles per hour, and spends 8 hours away from home, including a 1-hour stop for lunch?

62. At 10 a.m., two cars started traveling toward each other from towns 287 miles apart. They passed each other at 1:30 p.m. If the rate of the faster car exceeded the rate of the slower car by 6 miles per hour, find the rate in miles per hour of the faster car.

63. A driver covered 350 miles in 8 hours. Before noon he averaged 50 miles per hour, but after noon he averaged only 40 miles per hour. At what time did he leave?

64. At 3 p.m., a plane left New York City for Los Angeles traveling at 600 mph. At 3:30 p.m., another plane left the same airport on the same route traveling at 650 mph. At what time did the second plane overtake the first?

65. A soldier with a 24-hour pass and no special plans left the base at 10 a.m. and walked out into the country at 4 miles per hour. He returned on the same road at 2 miles per hour. If he arrived back at the base at 4 p.m., how many miles into the country did he walk?

66. Two cars leave the gas station at the same time and proceed in the same direction along the same route. One car averages 36 miles per hour and the other 31 miles per hour. In how many hours will the faster car be 30 miles ahead of the slower car?