Summer Math
Grade 6 – <u>Entering Grade</u> 7

Name:

① Do all work on yellow paper. You must show your work
② Write the letter of the correct answer on this sheet.

* Multiple Choice: Topics 1-19

Page 101	Page 102	Page 103	Page 104	Page 105
①	⑧	⑯	㉔	㉜
②	⑨	⑰	㉕	㉝
③	⑩	⑱	㉖	㉞
④	⑪	⑲	㉗	㉟
⑤	⑫	⑳	㉘	㊱
⑥	⑬	㉑	㉙	㊲
⑦	⑭	㉒	㉚	㊳
	⑮	㉓	㉛	

* Place the answers to the 3 Basic Facts Sheets in the spaces provided on each sheet.

* Place the answers to the Adding, Subtracting, Multiplying, and Dividing Integers Sheets in the spaces provided on each sheet.

Name _____

Mark the best answer.

1. When light enters a material, its angle is altered. This is called the refractive index (R.I.) of the material. Which shows the materials in order from least to greatest R.I.?

Mineral	R.I.
Formica	1.47
Glycerol	1.4729
Turpentine	1.472

A Formica, Turpentine, Glycerol

B Formica, Glycerol, Turpentine

C Glycerol, Turpentine, Formica

D Turpentine, Glycerol, Formica

2. Which of the following is 750,000,006 expressed in word form?

A Seventy-five million, six

B Seven hundred fifty million, six

C Seven hundred fifty million, sixty

D Seven hundred fifty thousand, six

3. Evaluate $6 + (4^3 \div 2) \times 3$.

A 114

B 105

C 102

D 27

4. Tickets to a figure-skating event cost adults $20 and children $9. Use the expression $20 + 9x$ to find the cost for 1 adult and 4 children.

A $33

B $56

C $76

D $89

5. Find $26.07 - 18.19$.

A 8.12

B 8.18

C 8.08

D 7.88

6. Emma bought 2 DVDs for $7.98 each. What was the total cost of the DVDs and additional tax, if she paid $0.96 in tax?

A $8.94

B $14.04

C $16.92

D $17.88

7. Solve $x - 12 = 60$.

A $x = 72$

B $x = 58$

C $x = 48$

D $x = 5$

8. The 8 members on a tennis team received 7 balls each for practice. If *n* is the total number of tennis balls, which equation shows how the tennis balls were divided?

A $7n = 8$

B $n \div 8 = 7$

C $n - 7 = 8$
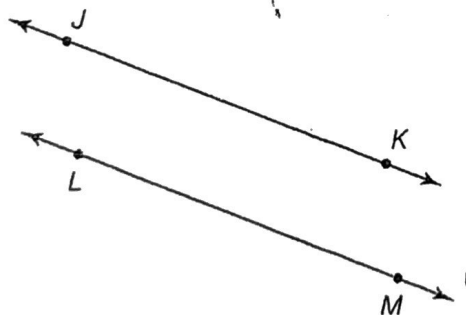
D $7 \div n = 8$

9. Which comparison is correct?

A $-2 < -8$

B $-32 > -30$

C $-18 < -16$

D $-4 > -1$

10. Which improper fraction is equal to $4\frac{3}{4}$?

A $\frac{17}{4}$

B $\frac{18}{4}$

C $\frac{19}{4}$

D $\frac{20}{4}$

11. Which describes the lines below?

A Intersecting lines

B Line segments

C Parallel lines

D Perpendicular lines

12. Twelve of the 25 students in Mr. Kotter's class ride their bikes to school. Which decimal is equal to $\frac{12}{25}$?

A 0.51

B 0.45

C 0.48

D 0.35

13. Gina has 30 green beads and 54 purple beads. What is the greatest number of headbands she can make if she uses the same number of green beads and the same number of purple beads on each headband?

A 2

B 4

C 6

D 8

14. Which fraction is equivalent to $\frac{8}{30}$?

A $\frac{12}{45}$

B $\frac{16}{50}$

C $\frac{20}{25}$

D $\frac{32}{90}$

15. Greg can buy 1 model car for $3.00. If all model cars that Greg wants to buy cost the same, how many model cars can Greg buy for $45.00?
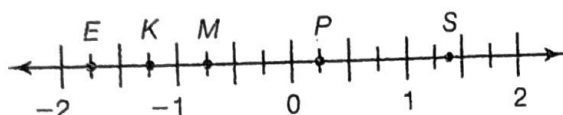
Number of Model Cars	1	2	5	n
Cost	$3	$6	$15	$45

A 10

B 15

C 20

D 25

16. Ty needs $29\frac{2}{3}$ feet of fencing for a vegetable garden and $38\frac{1}{2}$ feet for a rose garden. How much more fencing does he need for the rose garden?

   A $9\frac{5}{6}$

   B $9\frac{1}{3}$

   C $8\frac{5}{6}$

   D $8\frac{1}{3}$

Use the number line for **17** and **18**.

17. Which point represents -1.25?

   A point E

   B point K

   C point M

   D point P

18. Which number represents point S?

   A $1\frac{7}{8}$

   B 1.6

   C $\frac{4}{3}$

   D 1.15

19. A stack of plates is $6\frac{5}{8}$ in. high. About how high are 4 stacks of the same height?

   A 32 in.

   B 28 in.

   C 24 in.

   D 20 in.

20. Lily has $15\frac{3}{4}$ feet of fabric to make tails for 6 kites. What will be the length of a tail if each is the same length?

   A $1\frac{7}{8}$ ft

   B $2\frac{1}{2}$ ft

   C $2\frac{3}{8}$ ft

   D $2\frac{5}{8}$ ft

21. A state park has 14 hiking trails, 8 horse trails, and 16 mountain bike trails. What is the ratio of horse trails to hiking trails?

   A 8:14

   B 14 to 8

   C 16 to 8

   D $\frac{8}{16}$

22. A sailfish can swim up to 68 miles per hour. At this rate, how far can a sailfish swim in $\frac{1}{4}$ hour?

   A 34 mi

   B 27.2 mi

   C 17 mi

   D 10.2 mi

23. Which of the following represents the integer, its opposite, and the absolute value of Point M?
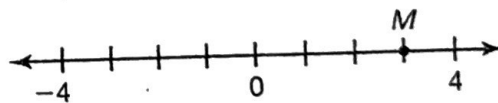
   A $-3, 3, 0$

   B $3, 0, 3$

   C $-3, 0, 3$

   D $3, -3, 3$

24. Lance is in a 3-day bicycle race. In three days he rides a total of 360 miles. Which unit rate expresses how many miles he averaged each day of the race?

A $\frac{90 \text{ miles}}{1 \text{ day}}$

B $\frac{120 \text{ miles}}{1 \text{ day}}$

C $\frac{240 \text{ miles}}{1 \text{ day}}$

D $\frac{360 \text{ miles}}{1 \text{ day}}$

25. Karen has read 80% of the books in her favorite mystery series. If she has read 40 books, how many total books are in the series?

A 45 books

B 48 books
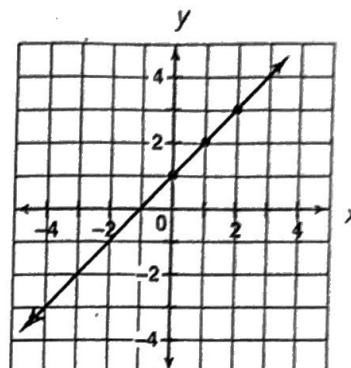
C 50 books

D 60 books

26. What percent of 45 is 18?

A 4%

B 2.50%

C 25%

D 40%

27. Which equation describes the pattern in the table?

x	6	12	18	24	30
y	2	4	6	8	10

A $y = x \div 3$

B $y = 3x$

C $y = x + 4$

D $y = x - 4$

28. Which equation was used to make the graph?

A $y = x - 1$

B $y = x + 1$

C $y = x + 2$

D $y = x - 2$

29. How many inches are in 4 yards?
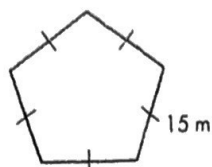
A 12 inches

B 36 inches

C 72 inches

D 144 inches

30. A pot holds 750 mL of liquid. How many liters does it hold?

A 75 L

B 7.5 L

C 0.75 L

D 0.075 L

31. What is the area of a triangle with base 18 cm and height 4 cm?

A 36 cm²

B 40 cm²

C 72 cm²

D 144 cm²

32. What is the perimeter of the polygon below?

A 105 m

B 90 m

C 80 m

D 75 m

33. What is the volume of a rectangular prism with $\ell = 4\frac{1}{2}$ cm, $w = 3\frac{1}{2}$ cm, and $h = 6$ cm?

A $90\frac{1}{2}$ cubic centimeters

B $94\frac{1}{2}$ cubic centimeters

C 95 cubic centimeters

D $95\frac{1}{2}$ cubic centimeters

34. How many vertices does a triangular pyramid have?

A 3

B 4

C 5

D 7

35. The list shows the number of people who entered a sand castle contest each day for 5 days. What is the mean number of people who entered the contest?

85, 94, 76, 84, 91

A 76 people

B 80 people

C 85 people

D 86 people

**36.** The 11 students in Mr. Honig's class earned the following scores on the last math quiz:

65, 68, 70, 73, 76, 82, 85, 85, 87, 90, 97

Which of the following is the first quartile value of this data set?

A 87

B 73

C 70

D 68

Use the following information to answer Questions **37** and **38**.

Eric made a box plot to record how many cups of water he and a friend drank each day for two weeks.

Cups of Water per Day
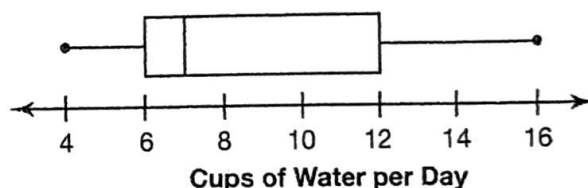
37. What is the maximum value in the data?

A 2 cups of water

B 7 cups of water

C 12 cups of water

D 16 cups of water

38. What is the third quartile of the data?

A 6 cups of water

B 7 cups of water

C 12 cups of water

D 16 cups of water

Name _____

Give each answer.

1. $2 + 8 = $ ____

2. $10 - 6 = $ ____

3. $7 + 1 = $ ____

4. $5 + 9 = $ ____

5. $4 + 8 = $ ____

6. $15 - 8 = $ ____

7. $9 - 3 = $ ____

8. $3 + 5 = $ ____

9. $4 + 3 = $ ____

10. $6 + 7 = $ ____

11. $13 - 5 = $ ____

12. $1 + 8 = $ ____

13. $9 - 0 = $ ____

14. $8 - 7 = $ ____

15. $8 + 3 = $ ____

16. $12 - 7 = $ ____

17. $0 + 3 = $ ____

18. $9 + 7 = $ ____

19. $16 - 8 = $ ____

20. $2 + 9 = $ ____

21. $13 - 6 = $ ____

22. $3 - 1 = $ ____

23. $14 - 8 = $ ____

24. $16 - 7 = $ ____

25. $6 + 3 = $ ____

26. $12 - 8 = $ ____

27. $9 + 5 = $ ____

28. $4 + 6 = $ ____

29. $7 - 0 = $ ____

30. $1 + 6 = $ ____

31. $5 + 4 = $ ____

32. $7 + 7 = $ ____

33. $17 - 9 = $ ____

34. $12 - 7 = $ ____

35. $11 - 4 = $ ____

36. $18 - 9 = $ ____

37. $6 + 0 = $ ____

38. $15 - 6 = $ ____

39. $11 - 9 = $ ____

40. $8 + 7 = $ ____

41. $17 - 8 = $ ____

42. $10 - 4 = $ ____

43. $8 + 8 = $ ____

44. $14 - 9 = $ ____

45. $1 + 9 = $ ____

46. $10 - 8 = $ ____

47. $8 + 5 = $ ____

48. $13 - 9 = $ ____

49. $9 + 6 = $ ____

50. $6 + 5 = $ ____

Name _____

Give each answer.

1. $3 + 7 =$ _____

2. $8 + 5 =$ _____

3. $7 + 3 =$ _____

4. $4 + 9 =$ _____

5. $0 + 4 =$ _____

6. $10 - 3 =$ _____

7. $11 - 7 =$ _____

8. $14 - 5 =$ _____

9. $6 - 2 =$ _____

10. $12 - 9 =$ _____

11. $7 + 5 =$ _____

12. $6 + 6 =$ _____

13. $8 + 9 =$ _____

14. $6 + 4 =$ _____

15. $4 + 7 =$ _____

16. $15 - 7 =$ _____

17. $10 - 7 =$ _____

18. $15 - 9 =$ _____

19. $13 - 4 =$ _____

20. $12 - 6 =$ _____

21. $6 + 8 =$ _____

22. $7 + 9 =$ _____

23. $8 + 6 =$ _____

24. $4 + 5 =$ _____

25. $9 + 9 =$ _____

26. $1 \times 6 =$ _____

27. $7 \times 9 =$ _____

28. $5 \times 4 =$ _____

29. $45 \div 5 =$ _____

30. $6 \times 7 =$ _____

31. $72 \div 8 =$ _____

32. $56 \div 7 =$ _____

33. $42 \div 6 =$ _____

34. $0 \times 8 =$ _____

35. $35 \div 7 =$ _____

36. $48 \div 6 =$ _____

37. $5 \times 0 =$ _____

38. $0 \div 4 =$ _____

39. $6 \times 9 =$ _____

40. $18 \div 6 =$ _____

41. $36 \div 9 =$ _____

42. $3 \times 9 =$ _____

43. $6 \times 4 =$ _____

44. $7 \div 7 =$ _____

45. $30 \div 6 =$ _____

46. $8 \times 7 =$ _____

47. $9 \times 4 =$ _____

48. $7 \div 1 =$ _____

49. $24 \div 6 =$ _____

50. $6 \times 6 =$ _____

Name _____

Give each answer.

1. $8 \times 3 =$ _____

2. $9 \times 4 =$ _____

3. $7 \times 8 =$ _____

4. $6 \times 2 =$ _____

5. $5 \times 9 =$ _____

6. $7 \times 4 =$ _____

7. $2 \times 1 =$ _____

8. $3 \times 2 =$ _____

9. $9 \times 9 =$ _____

10. $8 \times 4 =$ _____

11. $2 \times 9 =$ _____

12. $8 \times 5 =$ _____

13. $7 \times 7 =$ _____

14. $7 \times 2 =$ _____

15. $9 \times 3 =$ _____

16. $1 \times 6 =$ _____

17. $3 \times 0 =$ _____

18. $5 \times 7 =$ _____

19. $7 \times 9 =$ _____

20. $9 \times 2 =$ _____

21. $3 \times 3 =$ _____

22. $6 \times 5 =$ _____

23. $5 \times 5 =$ _____

24. $8 \times 2 =$ _____

25. $5 \times 8 =$ _____

26. $16 \div 4 =$ _____

27. $30 \div 5 =$ _____

28. $10 \div 5 =$ _____

29. $24 \div 3 =$ _____

30. $42 \div 7 =$ _____

31. $16 \div 2 =$ _____

32. $6 \div 6 =$ _____

33. $81 \div 9 =$ _____

34. $35 \div 5 =$ _____

35. $0 \div 2 =$ _____

36. $21 \div 3 =$ _____

37. $7 \div 1 =$ _____

38. $56 \div 8 =$ _____

39. $8 \div 2 =$ _____

40. $27 \div 3 =$ _____

41. $48 \div 6 =$ _____

42. $28 \div 4 =$ _____

43. $10 \div 2 =$ _____

44. $15 \div 5 =$ _____

45. $18 \div 3 =$ _____

46. $24 \div 6 =$ _____

47. $2 \div 2 =$ _____

48. $24 \div 4 =$ _____

49. $63 \div 7 =$ _____

50. $36 \div 4 =$ _____

Find each sum.

Adding Like Integers	Adding Unlike Integers
1. Add the integers. 2. Use the sign of both numbers. $-8 + (-20) = -28;$ $|-8| + |-20| = 28$ When both numbers are negative, the sum is negative. $-8 + (-20) = -28$	1. Subtract the integers. 2. Use the sign of the greater absolute value. $-10 + 8 = -2$ $|-10| = 10 \quad |8| = 8$ $|-10| > |8|$ The answer is -2.

1. 8 + (-18)

= _____

2. -7 + (-8)

= _____

3. -8 + 24

= _____

4. -9 + (-3)

= _____

5. 26 + 8

= _____

6. -24 + 0

= _____

Subtracting Integers

Find each difference.

Subtracting a negative integer is the same as adding a positive integer:	Subtracting a positive integer is the same as adding a negative integer:
$-5 - (-6) = 1$ is the same as $-5 + 6 = 1$	$-10 - 5 = -15$ is the same as $-10 + (-5) = -15$

1. 4 – 10 = _____

2. -5 – 12 = _____

3. 3 – (-15) = _____

4. -7 – (-14) = _____

5. 8 – 14 = _____

6. 34 – (-10) = _____

7. -22 – (-38) = _____

8. 6 – 15 = _____

9. -54 – 94 = _____

10. 7 – (-7) = _____

11. -7 – 7 = _____

12. -7 – (-7) = _____

Multiplying Integers

each product.

Multiplying two positive or two negative integers results in a positive product.	Multiplying a negative and a positive integer results in a negative product.
$8(7) = 56$ $-6(-3) = 18$	$-5(4) = -20$ $3(-4) = -12$

1. $5(-9) =$ _____

2. $-6(-7) =$ _____

3. $-7(3) =$ _____

4. $5(6) =$ _____

5. $-6(-5) =$ _____

6. $-9(9) =$ _____

7. $-8(0) =$ _____

8. $8(-9) =$ _____

9. $-12(12) =$ _____

10. $-10(-46) =$ _____

11. $8(-5) =$ _____

12. $-12(-8) =$ _____

Dividing Integers

Find each quotient.

Examples:

Dividing two positive or two negative integers results in a positive quotient.	Dividing a negative and a positive integer results in a negative quotient.
$28 \div 7 = 4$ $-50 \div (-10) = 5$	$-21 \div 7 = -3$ $36 \div (-9) = -4$

1. $-20 \div (-5) =$ _____

2. $81 \div 9 =$ _____

3. $-48 \div 8 =$ _____

4. $30 \div (-5) =$ _____

5. $0 \div (-12) =$ _____

6. $42 \div (-6) =$ _____

7. $125 \div (-5) =$ _____

8. $-96 \div 12 =$ _____

9. $-90 \div (-10) =$ _____

10. $-54 \div 3 =$ _____

11. $-75 \div (-15) =$ _____

12. $52 \div (-4) =$ _____