Arithmetic/Algebra Readiness Sample Test

Topic I — Numerical Operations

1. Simplify: $3 \cdot 5 + 4 \cdot 5$
   a) 95   b) 135   c) 35   d) 17

2. $(3 \times 10^5)(2 \times 10^1)$
   a) 6×100^6 b) 6×10^5 c) 6×10^6 d) 5×20^6

3. A certain baseball team wins on the average 6 out of every 8 games it plays. If the team is to play 72 games, what is the most probable number of wins?
   a) 12   b) 54   c) 36   d) 48

4. If a light on a buoy makes one revolution every 10 seconds, how many revolutions does the light make in one hour?
   a) 360   b) 36   c) 60   d) 600

5. It takes 18 minutes for a certain bacteria population to triple. At 8:30 a.m., the bacteria count was 4,010,000. What is the best estimate (in millions of units) of the population at 9:06 a.m. on the same morning?
   a) 120,000,000   b) 36   c) 120,000   d) 12

6. Sarah has $290 in her account. She writes checks for $101 and $78 and then makes a deposit of $180. Find the amount left in her account.
   a) $291   b) $289   c) $191   d) $189

7. $2.41095 - 0.1993 = ?$
   a) 2.6102   b) 2.21165   c) 2.39102   d) 2.39165

8. $\left(2\frac{1}{4}\right)\left(3\frac{1}{3}\right) = ?$
   a) $\dfrac{15}{2}$ b) $\dfrac{30}{12}$ c) 6   d) $\dfrac{27}{40}$

9. $5.2 \div .004 = ?$
   a) 1.3   b) 13.0   c) 130   d) 1300

10. $3\frac{5}{8} - 1\frac{11}{16} = ?$
    a) $1\frac{5}{16}$ b) $1\frac{15}{16}$ c) 2   d) $2\frac{1}{16}$

11. $\dfrac{2}{3} \cdot \dfrac{15}{16} = ?$
    a) $\dfrac{17}{18}$ b) $\dfrac{32}{45}$ c) $1\frac{3}{5}$ d) $\dfrac{5}{8}$

12. Martin ran the 50 meter race on four occasions. His times were:

9.60 sec	9.00 sec	10.30 sec	9.30 sec

    Find Martin's average time.
    a) 9.30 sec   b) 9.55 sec   c) 9.60 sec   d) 9.35 sec

Topic II — Operations with Percentages

13. What is 86% of 8000?
    a) 68   b) 6880   c) 80000   d) 1200

14. 15 is what percent of 5?
    a) 3%   b) 300%   c) $33\frac{1}{3}\%$ d) $3\frac{1}{3}\%$

15. Mary's salary was increased by 10%. She now earns $1650. What did she earn before the increase?
    a) $1500   b) $1485   c) $1815   d) $1525

16. A sporting goods store has a tennis racket on sale for $60. This is 80% of its original price. What was the original price?
    a) $108   b) $68   c) $7   d) $75

17. An automobile tire costs $44.50 plus a sales tax of 8%. What is the total cost the customer will pay for the tire?
    a) $47.46   b) $48.46   c) $52.50   d) $48.06

18. In December a sweater sold for $50. In January, it was on sale for $40. What was the percentage decrease?
    a) 10%   b) 20%   c) 25%   d) 40%

Topic III — Operations with Signed Numbers

19. What number divided by -5 gives 9 as an answer?
    a) 45   b) -45   c) 9   d) -9

20. $4 - 7 - 2 + 1 = ?$
    a) 6   b) 3   c) -4   d) 2

21. Put these fractions in order from largest to smallest:
    $$\frac{1}{2}, \quad .3, \quad \frac{7}{10}, \quad \frac{4}{5}$$
    a) $\frac{7}{10}, \frac{4}{5}, .3, \frac{1}{2}$ b) $\frac{4}{5}, \frac{7}{10}, .3, \frac{1}{2}$
    c) $.3, \frac{1}{2}, \frac{7}{10}, \frac{4}{5}$ d) $\frac{4}{5}, \frac{7}{10}, \frac{1}{2}, .3$

22. What is the distance on the number line from -10 to 7?
    a) 10   b) 7   c) 17   d) -3

23. The temperature rose from a low of -12°F to a high of 23°F at noon. What was the increase in temperature?
    a) 23°F   b) 13°F   c) 11°F   d) 35°F

24. $2 - (4 - 5) = ?$
    a) 3   b) -7   c) 1   d) 2

25. $(0)(5) = ?$
    a) 0   b) 5   c) not defined   d) $\dfrac{0}{5} + 1$

Arithmetic/Algebra Readiness Sample Test

26. $(-2)(-3) + 4(5-7) = ?$
    a) -18   b) -3   c) -20   d) -2

Topic IV — Simplifying Expressions and Solving Equations

27. The prime factorization of 28 is ?
    a) 4 x 7   b) 2 x 2 x 7   c) 7   d) 2 x 2

28. $(2^4)(2^5) = ?$
    a) 2^{20} b) 4^9 c) 2^9 d) 4^{20}

29. Find the least common multiple of 9 and 15.
    a) 3   b) 9   c) 135   d) 45

30. $(.3)^2 + (.03)^2 = ?$
    a) .099   b) .9900   c) .0909   d) .9090

31. Simplify: $5(2-x)$
    a) $10x$ b) $10-x$ c) $10-5x$ d) $-10x$

32. If $5x + 2y = 18$ and if $x = 2$, then $y = ?$?
    a) 18   b) 10   c) 4   d) 2

33. If $x = 3$, then $\dfrac{6}{x} + 2 = ?$
    a) 4   b) 8   c) 2   d) 5

34. Simplify: $\dfrac{4xy}{6yz}$

    a) $\dfrac{4y}{z}$ b) $\dfrac{x}{6z}$ c) $\dfrac{2xy}{3z}$ d) $\dfrac{2x}{3z}$
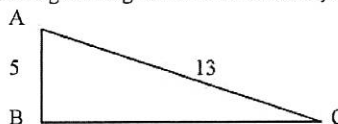
35. If $\sqrt{x} = 16$, then $x = ?$
    a) 4   b) 16   c) 64   d) 256

Topic V — Geometric Applications

36. A rectangle has a perimeter of 32 inches and a width of 4 inches. Find the length of the rectangle.
   a) 8 in   b) 12 in   c) 16 in   d) 24 in

37. A circle has a radius of 8 inches. What is the area of the circle?
    a) 8π in²   b) 16π in²   c) 64π in²   d) 64 in²

38. In right triangle ABC shown below, find the length of side BC.

    a) 5   b) 13   c) 12   d) 18

39. How much carpet is needed to cover the floor of a room that has dimensions of 12 yd by 24 yd?
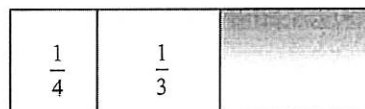   a) 288 sq yd   b) 32 sq yd   c) 80 sq yd   d) 144 sq yd

40. A rectangle is drawn on a plane. What are the coordinates of point A.
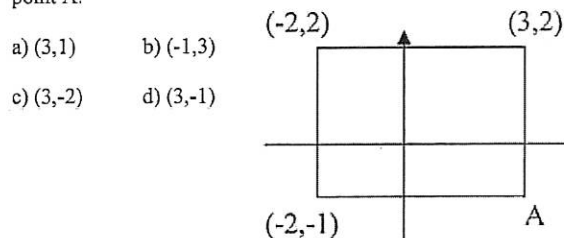
    a) (3,1)   b) (-1,3)

    c) (3,-2)   d) (3,-1)

41. What fractional part of the rectangular rod is shaded?

    a) 5/7   b) 5/12
    c) 5/6   d) 7/12

AR - Arithmetic/Algebra Readiness Sample Test Evaluation
(Places into Math 260 - Math 101)

Problem #	Your Answer	Correct Answer	Topic
1		c	Order of Operations - Whole Numbers
2		c	Operations with Scientific Notation
3		b	Ratios
4		a	Ratios/Conversions
5		b	Estimation
6		a	Checking Account Word Problem
7		b	Operations with Decimals - Subtraction
8		a	Operations with Fractions - Multiplication
9		d	Operations with Decimals - Division
10		b	Operations with Fractions - Subtractions/Mixed Numbers
11		d	Operations with Fractions - Multiplication
12		b	Descriptive Statistics - Average/Mean
13		b	Percentage
14		b	Percentage
15		a	Percent Increase
16		d	Percent Decrease
17		d	Percent - Tax
18		b	Percent Decrease
19		b	Operations with Signed Numbers
20		c	Operations with Signed Numbers
21		d	Order Fractions/Decimals
22		c	Number Line
23		d	Operations with Signed Numbers
24		a	Operations with Signed Numbers
25		a	Operations with Zero
26		d	Operations with Signed Numbers
27		b	Prime Factorization
28		c	Exponents
29		d	Least Common Multiple
30		c	Exponents
31		c	Simplify Algebraic Expression
32		c	Solve Algebraic Equation
33		a	Solve Algebraic Equation
34		d	Simplify Algebraic Expression
35		d	Square Root
36		b	Perimeter
37		c	Area
38		c	Pythagorean Theorem
39		a	Area
40		d	Coordinate Plane
41		b	Fractional Part

Numerical Skills/Pre-algebra

1. $54 - 6 \div 2 + 6 = ?$

    A.   6
    B.   24
    C.   27
    D.   30
    E.   57

2. The lowest temperature on a winter morning was $-8°F$. Later that same day the temperature reached a high of $24°F$. By how many degrees Fahrenheit did the temperature increase?

    A. $3°$
    B. $8°$
    C. $16°$
    D. $24°$
    E. $32°$

3. If $\left(\frac{3}{4} - \frac{2}{3}\right) + \left(\frac{1}{2} + \frac{1}{3}\right)$ is calculated and the answer reduced to simplest terms, what is the denominator of the resulting fraction?

    A.   24
    B.   12
    C.   6
    D.   4
    E.   3

4. $\frac{1}{2} + \left(\frac{2}{3} \div \frac{3}{4}\right) - \left(\frac{4}{5} \times \frac{5}{6}\right) = ?$

    A. $\frac{1}{16}$
    B. $\frac{17}{27}$
    C. $\frac{13}{18}$
    D. $\frac{7}{9}$
    E. $\frac{5}{6}$

3

5. Mr. Brown went grocery shopping to buy meat for his annual office picnic. He bought $7\frac{3}{4}$ pounds of hamburger, 17.85 pounds of chicken, and $6\frac{1}{2}$ pounds of steak. How many pounds of meat did Mr. Brown buy?

  A. 32.10
  B. 31.31
  C. 26.25
  D. 22.10
  E. 21.10

6. Four students about to purchase concert tickets for $18.50 for each ticket discover that they may purchase a block of 5 tickets for $80.00. How much would each of the 4 save if they can get a fifth person to join them and the 5 people equally divide the price of the 5-ticket block?

  A. $ 1.50
  B. $ 2.50
  C. $ 3.13
  D. $10.00
  E. $12.50

7. In scientific notation, $20,000 + 3,400,000 = ?$

  A. 3.42×10^6
  B. 3.60×10^6
  C. 3.42×10^7
  D. 3.60×10^7
  E. 3.60×10^{12}

8. Saying that $4 < \sqrt{x} < 9$ is equivalent to saying what about x ?

  A. $0 < x < 5$
  B. $0 < x < 65$
  C. $2 < x < 3$
  D. $4 < x < 9$
  E. $16 < x < 81$

9. What value of x solves the following proportion?

    $$\frac{9}{6} = \frac{x}{8}$$

    A. $5\frac{1}{3}$

    B. $6\frac{3}{4}$

    C. $10\frac{1}{2}$

    D.   11

    E.   12

10. If the total cost of x apples is b cents, what is a general formula for the cost, in cents, of y apples?

    A. $\frac{b}{xy}$

    B. $\frac{x}{by}$

    C. $\frac{xy}{b}$

    D. $\frac{by}{x}$

    E. $\frac{bx}{y}$

11. On a math test, 12 students earned an A. This number is exactly 25% of the total number of students in the class. How many students are in the class?

    A.   15
    B.   16
    C.   21
    D.   30
    E.   48

12. This year, 75% of the graduating class of Harriet Tubman High School had taken at least 8 math courses. Of the remaining class members, 60% had taken 6 or 7 math courses. What percent of the graduating class had taken fewer than 6 math courses?

    A.   0%
    B.   10%
    C.   15%
    D.   30%
    E.   45%

13. Adam tried to compute the average of his 7 test scores. He mistakenly divided the correct sum of all of his test scores by 6, which yielded 84. What is Adam's correct average test score?

   A. 70
   B. 72
   C. 84
   D. 96
   E. 98

14. A total of 50 juniors and seniors were given a mathematics test. The 35 juniors attained an average score of 80 while the 15 seniors attained an average of 70. What was the average score for all 50 students who took the test?

   A. 73
   B. 75
   C. 76
   D. 77
   E. 78

6

Correct Answers for Sample Numerical Skills/Pre-algebra Questions

Item Number	Correct Answer	Content Category
1	E	Operations with Integers
2	E	Operations with Integers
3	B	Operations with Fractions
4	C	Operations with Fractions
5	A	Operations with Decimals
6	B	Operations with Decimals
7	A	Exponents
8	E	Exponents
9	E	Ratios and Proportions
10	D	Ratios and Proportions
11	E	Percentages
12	B	Percentages
13	B	Averages
14	D	Averages

Algebra Readiness Test

1. $(0.8)^2 - (0.2)^3 =$

   ○ (A) 0.632   ○ (B) 0.634   ○ (C) 0.648   ○ (D) 5.6

2. 3 less than the product of a number n and 6 is 11 . Which of the following describes this?

   ○ (A) $6n - 3 = 11$ ○ (B) $3 - 6n = 11$

   ○ (C) $3 - (6 + n) = 11$ ○ (D) $3n - 6 = 11$

3. The temperature at noon on a given day was $-11\,^\circ C$ By 3:00PM on that day, it had warmed by $19\,^\circ C$ The temperature at 3:00PM was

   ○ (A) $19\,^\circ C$ ○ (B) $-8\,^\circ C$ ○ (C) $8\,^\circ C$ ○ (D) $30\,^\circ C$
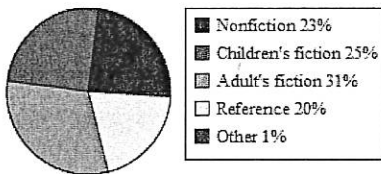
4. $\sqrt{19}$ is a number between

   ○ (A) 4 and 5   ○ (B) 5 and 6   ○ (C) 9 and 10   ○ (D) 36 and 40

5. The least common multiple of 8 , 24 , and 36 is

   ○ (A) 8   ○ (B) 36   ○ (C) 72   ○ (D) 216

6. The given circle graph shows the percent of the types of books available at a local library. What degree is the sector that corresponds to Children's fiction?

   ■ Nonfiction 23%
   ▨ Children's fiction 25%
   ▦ Adult's fiction 31%
   ☐ Reference 20%
   ▦ Other 1%

   ○ (A) $80\,^\circ$ ○ (B) $90\,^\circ$ ○ (C) $25\,^\circ$ ○ (D) $75\,^\circ$

7. If $x = 2$, then $\dfrac{x - \frac{1}{4}}{x + \frac{3}{8}} =$

   ○ (A) $\dfrac{2}{5}$ ○ (B) $-\dfrac{3}{32}$ ○ (C) $-\dfrac{2}{3}$ ○ (D) $\dfrac{14}{19}$

8. $8.13 - 0.251 =$

   ○ (A) 7.879   ○ (B) 7.881   ○ (C) 0.562   ○ (D) 8.879

9. If $x^2 + 5y = 26$ and $x = 4$, then $y =$

○ (A) $\dfrac{22}{5}$ ○ (B) 2   ○ (C) $\dfrac{18}{5}$ ○ (D) 5

---

10. If a 6-inch turkey sandwich contains 290 calories, which of the following is the best estimate for the number of calories in a 15-in turkey sandwich?

○ (A) 600   ○ (B) 700   ○ (C) 800   ○ (D) 900

---

11. $2.3 - \dfrac{5}{6} =$

○ (A) $\dfrac{9}{2}$ ○ (B) $\dfrac{22}{15}$ ○ (C) $\dfrac{9}{30}$ ○ (D) $\dfrac{3}{2}$

---

12. If a windmill makes 3 revolutions every 10 seconds, how many revolutions does the windmill make in one hour?

○ (A) 300   ○ (B) 600   ○ (C) 1080   ○ (D) 1800

---

13. $52 \div \dfrac{13}{2} =$

○ (A) $\dfrac{1}{8}$ ○ (B) 6   ○ (C) 8   ○ (D) 338

---

14. $4^5 . 4^3 =$

○ (A) 16^{15} ○ (B) 16^8 ○ (C) 4^{15} ○ (D) 4^8

---

15. Two dice are rolled one time. The sum of the numbers rolled CANNOT be

○ (A) 2   ○ (B) 5   ○ (C) 9   ○ (D) 13

---

16. If the perimeter of a rectangle is 24 and the length is 10 , then the area is

○ (A) 20   ○ (B) 70   ○ (C) 120   ○ (D) 240

---

17. $\dfrac{\frac{24}{8}}{3} =$

○ (A) 9   ○ (B) 64   ○ (C) 1   ○ (D) $\dfrac{1}{9}$

---

18. $(4 \times 10^2) \times (2 \times 10^3) =$

○ (A) 8×10^6 ○ (B) 8×10^5 ○ (C) 6×10^5 ○ (D) 6×10^6

---

19. For a certain class, the ratio of the number of female students to the total number of students is 2 to 5. If there are 35 students in the class, how many are female students?

○ (A) 10   ○ (B) 14   ○ (C) 21   ○ (D) 30

---

20. Which of the fractions shown is the smallest? $\dfrac{5}{6}, \dfrac{7}{8}, \dfrac{7}{24}, \dfrac{11}{36}$

○ (A) $\dfrac{5}{6}$ ○ (B) $\dfrac{7}{8}$ ○ (C) $\dfrac{7}{24}$ ○ (D) $\dfrac{11}{36}$

21.

Which of the following represents the ordering, from smallest to largest, of the numbers shown? $0.665, 0.68, \dfrac{2}{3}, \dfrac{13}{20}$
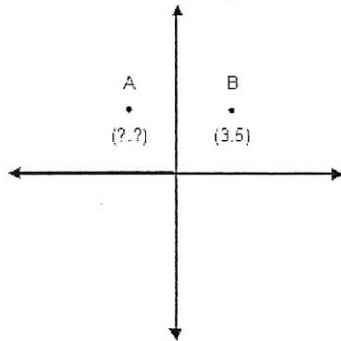
○ (A) $\dfrac{2}{3}, 0.665, 0.68, \dfrac{13}{20}$

○ (B) $\dfrac{13}{20}, 0.665, 0.68, \dfrac{2}{3}$

○ (C) $\dfrac{13}{20}, 0.665, \dfrac{2}{3}, 0.68$

○ (D) $\dfrac{2}{3}, 0.665, \dfrac{13}{20}, 0.68$

22.

What are the coordinates of A , if A and B are equidistant from the y-axis?

A   B
•   •
(?.?)   (3.5)

○ (A) $(5, 3)$

○ (B) $(-3, 5)$

○ (C) $(3, -5)$

○ (D) $(-3, -5)$

23.

$\dfrac{5xy}{35y} =$

○ (A) $\dfrac{x}{3}$

○ (B) $7x$

○ (C) $\dfrac{x}{7}$

○ (D) $\dfrac{xy}{7}$

24.

$\dfrac{8}{3} - \dfrac{5}{2} =$

○ (A) $\dfrac{1}{2}$

○ (B) $\dfrac{1}{6}$

○ (C) 3

○ (D) $\dfrac{1}{3}$

25.

$62 + 0.291 + 5.12 =$

○ (A) 0.865

○ (B) 62.803

○ (C) 67.303

○ (D) 67.411

26.

Which of the following is equal to $0 \div 1$?
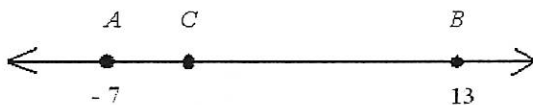
○ (A) 0×1

○ (B) $0 + 1$

○ (C) $\dfrac{1}{0}$

○ (D) $0 - 1$

27.

On the number line shown below, C represents the point which is a quarter of the distance between points A and B . What number does point C represent?

A C B

-7 13

○ (A) -5

○ (B) -4

○ (C) -2

○ (D) -1

28.

If $\sqrt{x} = 4$, then $x =$

○ (A) 2

○ (B) 8

○ (C) 16

○ (D) 64

29. Which of the following best approximates $\dfrac{0.92}{3.1}$?
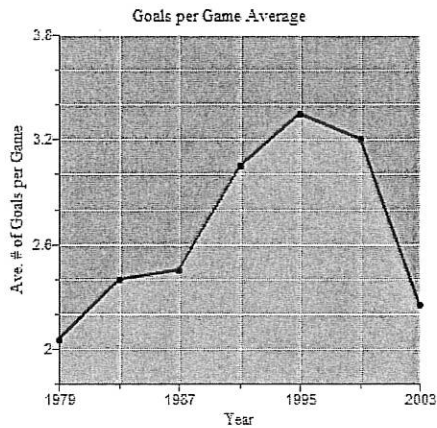
- ○ (A) 0.0003
- ○ (B) 0.003
- ○ (C) 0.03
- ○ (D) 0.3

---

30. 65% of 91.7 is a number between

- ○ (A) 9 and 45
- ○ (B) 45 and 90
- ○ (C) 90 and 540
- ○ (D) 540 and 6000

---

31. $-5 + 2 - 6 - (-7) =$

- ○ (A) -16
- ○ (B) -2
- ○ (C) 4
- ○ (D) 16

---

32. The given line graph shows the goals per game average for a sporting series during the years shown. During what year(s) shown was the average number of goals per game less than 2.3?

Goals per Game Average

- ○ (A) 1979 & 2003
- ○ (B) 1983 & 1987
- ○ (C) 1991 & 1999
- ○ (D) 1995

---

33. Of the following numbers, which best approximates $981.1 - 891.7$?

- ○ (A) 10
- ○ (B) 100
- ○ (C) 1,000
- ○ (D) 10,000

---

34. If a recipe for pancakes calls for $\dfrac{1}{2}$ cup of milk to make a serving for three people, how many servings do 4 cups of milk make?

- ○ (A) 6
- ○ (B) 12
- ○ (C) 24
- ○ (D) 48

---

35. $3 - (-4)(-5) =$

- ○ (A) -35
- ○ (B) -17
- ○ (C) 23
- ○ (D) 5

---

36. What number multiples by -4 gives -28 as the result?

- ○ (A) 112
- ○ (B) 7
- ○ (C) -6
- ○ (D) -7

---

37. The prime factorization of 60 is

- ○ (A) 1×60
- ○ (B) $2 \times 3 \times 10$
- ○ (C) $2 \times 2 \times 3 \times 5$
- ○ (D) $2 \times 3 \times 3 \times 5$

38. Sandy and John were traveling at the same rate of 70 miles per hour on a certain day. If Sandy drove for $3\frac{1}{2}$ hours and John drove for $1\frac{3}{4}$ hours, what is the total distance they drove that day?

  ○ (A) 147 miles   ○ (B) 322.5 miles   ○ (C) 350 miles   ○ (D) 367.5 miles

---

39. The diameter of a circle is 8 . What is the area of the circle?

  ○ (A) 8π ○ (B) 4π ○ (C) 16π ○ (D) 64π

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40. In the figure shown, what is the area of the shaded region?
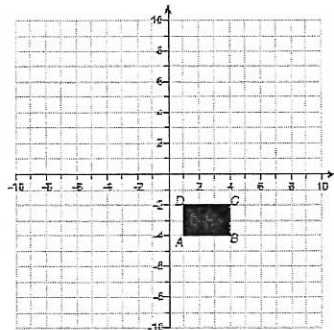
  ○ (A) 6   ○ (B) 5   ○ (C) -6 ○ (D) -16

---

41. $(1-3)-5=$

 ○ (A) -8 ○ (B) -7 ○ (C) 3   ○ (D) 10

---

42. The price of a car decreased by 10%. If the car originally cost $20,000, what was its price after the decrease?

  ○ (A) $18,500   ○ (B) $10,000   ○ (C) $19,000   ○ (D) $18,000

---

43. The total surface area of a cylinder is given by $A = 2\pi r^2 + 2\pi r h$, where r is the radius of the base, and h is the height of the cylinder. Use $r = 1, h = 2$ and $\pi = \dfrac{22}{7}$ to find A .

  ○ (A) $\dfrac{132}{7}$ ○ (B) $\dfrac{176}{7}$ ○ (C) $\dfrac{220}{7}$ ○ (D) $\dfrac{64}{7}$

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44. In the given figure, what fractional part of the circle is shaded?
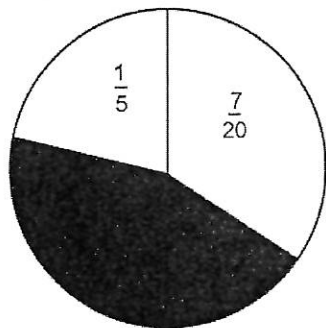
  ○ (A) $\dfrac{11}{20}$ ○ (B) $\dfrac{17}{25}$ ○ (C) $\dfrac{8}{25}$ ○ (D) $\dfrac{9}{20}$

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45. Which of the following integers is closest to $\dfrac{49}{9}$?

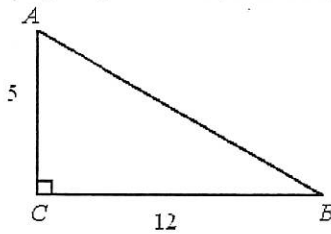○ (A) 4   ○ (B) 5   ○ (C) 6   ○ (D) 7

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46.   In the right triangle ABC shown, what is the length of AB ?

○ (A) 16   ○ (B) 8   ○ (C) 10   ○ (D) 13

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47.   Expressed as decimal, 1.2% is
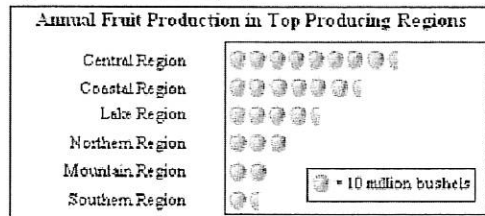
○ (A) 120   ○ (B) 0.12   ○ (C) 0.012   ○ (D) 12

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48.   The pictograph of fruit production in a particular year is shown by the top fruit-producing regions. How many more bushels of fruit were produced in the coastal region than in the northern region?

○ (A) 30 million   ○ (B) 35 million   ○ (C) 45 million   ○ (D) 65 million

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49.   A number k is greater than 5 . Which of the following statements is correct regarding $\dfrac{k}{5}$?

○ (A) less than 1   ○ (B) greater than 1   ○ (C) equal to 1   ○ (D) equal to 6

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50. $\left(4 - 3\dfrac{1}{3}\right) + \dfrac{5}{3} =$

○ (A) $1\dfrac{1}{3}$ ○ (B) 3   ○ (C) $2\dfrac{1}{3}$ ○ (D) $4\dfrac{2}{3}$

[Finish Test] [Reset]

Topic	Topic Description
DECM	Decimals, their Operations & Applications; Percent
EQTN	Simple Equations and Operations with Literal Symbols
EXPS	Exponents and Square Roots; Scientific Notation
FRAC	Fractions and their Applications
GEOM	Geometry and Graphing
INTG	Integers, their Operations & Applications

You correctly answered 0 of 50 questions, which ~ 0% on this test.

Question	Topic	Correct Answer
1	EXPS	A
2	EQTN	A
3	INTG	C
4	EXPS	A
5	INTG	C
6	GEOM	B
7	FRAC	D
8	DECM	A
9	EQTN	B
10	INTG	B
11	DECM	B
12	INTG	C
13	FRAC	C
14	EXPS	D
15	INTG	D
16	GEOM	A
17	EQTN	A
18	EXPS	B
19	FRAC	B
20	FRAC	C
21	DECM	C
22	GEOM	B
23	EQTN	C
24	FRAC	B
25	DECM	D

Question	Topic	Correct Answer
26	INTG	A
27	GEOM	C
28	EXPS	C
29	DECM	D
30	DECM	B
31	INTG	B
32	GEOM	A
33	DECM	B
34	EQTN	C
35	INTG	B
36	INTG	B
37	INTG	C
38	FRAC	D
39	GEOM	C
40	GEOM	A
41	INTG	B
42	DECM	D
43	EQTN	A
44	FRAC	D
45	FRAC	B
46	GEOM	D
47	DECM	C
48	GEOM	B
49	GEOM	B
50	FRAC	C