1 / 12

1993 Q16

16. $\dfrac{1}{1+\dfrac{1}{2+\dfrac{1}{3}}} =$

(A) $\frac{1}{6}$ **(B)** $\frac{3}{10}$ **(C)** $\frac{7}{10}$ **(D)** $\frac{5}{6}$ **(E)** $\frac{10}{3}$

2 / 12

2004 Q16

16. Two 600 ml pitchers contain orange juice. One pitcher is $\frac{1}{3}$ full and the other pitcher is $\frac{2}{5}$ full. Water is added to fill each pitcher completely, then both pitchers are poured into one large container. What fraction of the mixture in the large container is orange juice?

(A) $\frac{1}{8}$ **(B)** $\frac{3}{16}$ **(C)** $\frac{11}{30}$ **(D)** $\frac{11}{19}$ **(E)** $\frac{11}{15}$

3 / 12

2015 Q16

16. In a middle-school mentoring program, a number of the sixth graders are paired with a ninth-grade student as a buddy. No ninth grader is assigned more than one sixth-grade buddy. If $\frac{1}{3}$ of all the ninth graders are paired with $\frac{2}{5}$ of all the sixth graders, what fraction of the total number of sixth and ninth graders have a buddy?

(A) $\frac{2}{15}$ **(B)** $\frac{4}{11}$ **(C)** $\frac{11}{30}$ **(D)** $\frac{3}{8}$ **(E)** $\frac{11}{15}$

1989 Q18

18. Many calculators have a reciprocal key $\boxed{\frac{1}{x}}$ that replaces the current number displayed with its reciprocal. For example, if the display is $\boxed{4}$ and the $\boxed{\frac{1}{x}}$ key is depressed, then the display becomes $\boxed{.25}$. If $\boxed{32}$ is currently displayed, what is the fewest number of times you must depress the $\boxed{\frac{1}{x}}$ key so the display again reads $\boxed{32}$?

A) 1 B) 2 C) 3 D) 4 E) 5

1987 Q18

18. Half the people in a room left. One third of those remaining started to dance. There were then 12 people who were not dancing. The original number of people in the room was

A) 24 B) 30 C) 36 D) 42 E) 72

1986 Q20

20. The value of the expression $\frac{(304)^5}{(29.7)(399)^4}$ is closest to

A) .003 B) .03 C) .3 D) 3 E) 30

2004 Q20

20. Two-thirds of the people in a room are seated in three-fourths of the chairs. The rest of the people are standing. If there are 6 empty chairs, how many people are in the room?

(A) 12 **(B)** 18 **(C)** 24 **(D)** 27 **(E)** 36

2008 Q20

20. The students in Mr. Neatkin's class took a penmanship test. Two-thirds of the boys and $\frac{3}{4}$ of the girls passed the test, and an equal number of boys and girls passed the test. What is the minimum possible number of students in the class?

(A) 12 **(B)** 17 **(C)** 24 **(D)** 27 **(E)** 36

2012 Q20

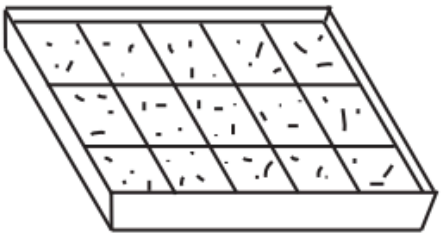
20. What is the correct ordering of the three numbers $\frac{5}{19}$, $\frac{7}{21}$, and $\frac{9}{23}$, in increasing order?

(A) $\frac{9}{23} < \frac{7}{21} < \frac{5}{19}$ **(B)** $\frac{5}{19} < \frac{7}{21} < \frac{9}{23}$ **(C)** $\frac{9}{23} < \frac{5}{19} < \frac{7}{21}$

(D) $\frac{5}{19} < \frac{9}{23} < \frac{7}{21}$ **(E)** $\frac{7}{21} < \frac{5}{19} < \frac{9}{23}$

Problems 17, 18, and 19 refer to the following:

Cookies For a Crowd



At Central Middle School the 108 students who take the AMC $\rightarrow$ 8 meet in the evening to talk about problems and eat an average of two cookies apiece. Walter and Gretel are baking Bonnie's Best Bar Cookies this year. Their recipe, which makes a pan of 15 cookies, list these items:
$1\frac{1}{2}$ cups of flour, 2 eggs, 3 tablespoons butter, $\frac{3}{4}$ cups sugar, and 1 package of chocolate drops. They will make only full recipes, not partial recipe.

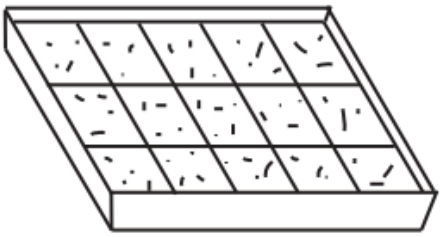
17. Walter can buy eggs by the half-dozen. How many half-dozens should be buy to make enough cookies? (Some eggs and some cookies may be left over.)

(A) 1 **(B)** 2 **(C)** 5 **(D)** 7 **(E)** 15

1999 Q18

Problems 17, 18, and 19 refer to the following:

Cookies For a Crowd



At Central Middle School the 108 students who take the AMC $\rightarrow$ 8 meet in the evening to talk about problems and eat an average of two cookies apiece. Walter and Gretel are baking Bonnie's Best Bar Cookies this year. Their recipe, which makes a pan of 15 cookies, list these items:
$1\frac{1}{2}$ cups of flour, 2 eggs, 3 tablespoons butter, $\frac{3}{4}$ cups sugar, and 1 package of chocolate drops. They will make only full recipes, not partial recipe.

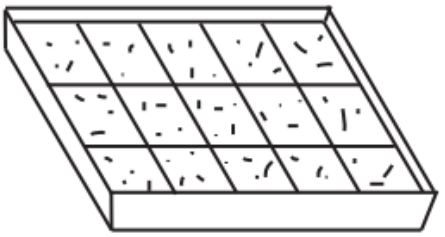
18. They learn that a big concert is scheduled for the same night and attendance will be down 25%. How many recipes of cookies should they make for their smaller party?

(A) 6 **(B)** 8 **(C)** 9 **(D)** 10 **(E)** 11

1999 Q19

Problems 17, 18, and 19 refer to the following:

Cookies For a Crowd



At Central Middle School the 108 students who take the AMC $\rightarrow$ 8 meet in the evening to talk about problems and eat an average of two cookies apiece. Walter and Gretel are baking Bonnie's Best Bar Cookies this year. Their recipe, which makes a pan of 15 cookies, list these items:
$1\frac{1}{2}$ cups of flour, 2 eggs, 3 tablespoons butter, $\frac{3}{4}$ cups sugar, and 1 package of chocolate drops. They will make only full recipes, not partial recipe.

19. The drummer gets sick. The concert is cancelled. Walter and Gretel must make enough pans of cookies to supply 216 cookies. There are 8 tablespoons in a stick of butter. How many sticks of butter will be needed? (Some butter may be left over, of course.)

(A) 5 **(B)** 6 **(C)** 7 **(D)** 8 **(E)** 9