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# Arithmetic

Sample Questions

# The College Board

H\Y'7c``Y[ Y'6cUfX ]g'U'a ]gg]cb!Xf]] Yb'bcH Zcfl dfc hcf[ Ub]nUh]cb'h UhVtbbYWg'ghi XYbrg

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13. A machine is currently set to a feed rate of 5.921 inches per minute (IPM). The machinist changes this setting to 6.088 IPM. By how much did the machinist increase the feed rate?
- A. 0.167 IPM  
 B. 1.167 IPM  
 C. 1.833 IPM  
 D. 1.967 IPM
14.  $0.075$ ,  $0.75\%$ ,  $\frac{3}{4}$
- Which of the following correctly orders the values above from least to greatest?
- A.  $0.75\%$ ,  $0.075$ ,  $\frac{3}{4}$   
 B.  $0.75\%$ ,  $\frac{3}{4}$ ,  $0.075$   
 C.  $\frac{3}{4}$ ,  $0.75\%$ ,  $0.075$   
 D.  $0.075$ ,  $0.75\%$ ,  $\frac{3}{4}$
15. What is the value of  $2.84 \times 3.9$ ?
- A. 3.408  
 B. 11.076  
 C. 34.08  
 D. 110.76
16. What is  $0.8637$  rounded to the nearest hundredth?
- A. 0.86  
 B. 0.863  
 C. 0.864  
 D. 0.87
17. 60% of what number is equal to 30?
- A. 0.5  
 B. 2  
 C. 18  
 D. 50
18. If  $\frac{4}{3} \div \frac{1}{6} = p$ , then the value of  $p$  is between which of the following pairs of numbers?
- A. 3 and 4  
 B. 5 and 6  
 C. 6 and 7  
 D. 7 and 9
19. Which of the following inequalities is true?
- A.  $\frac{3}{4} < \frac{5}{7}$   
 B.  $\frac{2}{3} > \frac{5}{6}$   
 C.  $\frac{5}{8} > \frac{6}{10}$   
 D.  $\frac{4}{5} < \frac{2}{9}$
20. Carole works at a bookstore and a restaurant. In a 28-day period, Carole worked  $\frac{1}{4}$  of the days at the bookstore and did not work  $\frac{1}{14}$  of the days. On the remaining days Carole worked at the restaurant. How many days did Carole work at the restaurant during the 28-day period?
- A. 25  
 B. 19  
 C. 10  
 D. 9



## Rationales

1. Choice D is correct.  $\frac{6}{100} = \frac{6}{100} \cdot \frac{3}{3} = \frac{18}{300}$ .  $\frac{1}{60} = \frac{1}{60} \cdot \frac{5}{5} = \frac{5}{300}$ .  $\frac{18}{300} + \frac{5}{300} = \frac{23}{300}$ .
2. Choice D is correct.  $\frac{4}{10} + \frac{3}{100} = \frac{40}{100} + \frac{3}{100} = \frac{43}{100}$ .

$$\frac{4}{10} + \frac{3}{100}$$

$$\frac{40}{100} + \frac{3}{100}$$

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$$(17 \times 3 = 51)$$





19. Choice C is correct.  $\frac{5}{8}$  is greater than  $\frac{6}{10}$ .

$\frac{25}{40} > \frac{24}{40}$

$\frac{3}{4}$  is not less than  $\frac{5}{7}$

$\frac{21}{28} < \frac{20}{28}$

$\frac{2}{3}$  is not greater than  $\frac{5}{6}$

$\frac{4}{6} > \frac{5}{6}$

$\frac{36}{45} < \frac{10}{45}$

20. Choice B is correct.  $\frac{1}{4}$  of the 28 is 7.

$28 \times \frac{1}{4} = 7$

$28 - 7 = 21$

$21 - 2 = 19$

$\frac{1}{4}$  and  $\frac{1}{14}$

$28 - (28 \times \frac{2}{18}) = 25$

$28 - 18 = 10$

$10 \times \frac{1}{10} = 1$