

**GMAT Arithmetic Practice Paper 4**

**Question 1**

**Steve traveled the first 2 hours of his journey at 40 mph and the last 3 hours of his journey at 80 mph. What is his average speed of travel for the entire journey?**

- A. 60 mph
- B. 56.67 mph
- C. 53.33 mph
- D. 64 mph
- E. 66.67 mph

**Question 2**

**Working together, Jose and Jane can complete an assigned task in 20 days. However, if Jose worked alone and completed half the task and then Jane takes over and completes the second half, the task will be completed in 45 days. How long will Jose take to complete the task if he worked alone? Assume that Jane is more efficient than Jose.**

- A. 25 days
- B. 30 days
- C. 60 days
- D. 65 days
- E. 36 days

**Question 3**

**A can complete a project in 20 days and B can complete the same project in 30 days. If A and B start working on the project together and A quits 10 days before the project is completed, in how many days will the project be completed?**

- A. 18 days

- B. 27 days
- C. 26.67 days
- D. 16 days
- E. 12 days

**Question 4**

**Ram, who is half as efficient as Krish, will take 24 days to complete a task if he worked alone. If Ram and Krish worked together, how long will they take to complete the task?**

- A. 16 days
- B. 12 days
- C. 8 days
- D. 6 days
- E. 18 days

**Question 5**

**A train traveling at 72 kmph crosses a platform in 30 seconds and a man standing on the platform in 18 seconds. What is the length of the platform in meters?**

- A. 240 meters
- B. 360 meters
- C. 420 meters
- D. 600 meters
- E. Cannot be determined

**Question 6**

**A train traveling at 100 kmph overtakes a motorbike traveling at 64 kmph in 40 seconds. What is the length of the train in meters?**

- A. 1777 meters

- B. 1822 meters
- C. 400 meters
- D. 1111 meters
- E. None of these

**Question 7**

**Jim travels the first 3 hours of his journey at 60 mph speed and the remaining 5 hours at 24 mph speed. What is the average speed of Jim's travel in mph?**

- A. 42 mph
- B. 36 mph
- C. 37.5 mph
- D. 42.5 mph
- E. 48 mph

**Question 8**

**A runs 25% faster than B and is able to allow B a lead of 7 meters to end a race in dead heat. What is the length of the race?**

- A. 10 meters
- B. 25 meters
- C. 45 meters
- D. 15 meters
- E. 35 meters

**Question 9**

**Jane covered a distance of 340 miles between city A and city B taking a total of 5 hours. If part of the distance was covered at 60 miles per hour speed and the balance at 80 miles per hour speed, how many hours did she travel at 60 miles per hour?**

- A. 2 hours 30 minutes
- B. 3 hours
- C. 2 hours
- D. 1 hour 45 minutes
- E. None of these

**Question 10**

**Steve traveled the first 2 hours of his journey at 40 mph and the last 3 hours of his journey at 80 mph. What is his average speed of travel for the entire journey?**

- A. 60 mph
- B. 56.67 mph
- C. 53.33 mph
- D. 64 mph
- E. 66.67 mph

**Question 11**

**Working together, Jose and Jane can complete an assigned task in 20 days. However, if Jose worked alone and completed half the task and then Jane takes over and completes the second half, the task will be completed in 45 days. How long will Jose take to complete the task if he worked alone? Assume that Jane is more efficient than Jose.**

- A. 25 days
- B. 30 days
- C. 60 days
- D. 65 days
- E. 36 days

**Question 12**

**A can complete a project in 20 days and B can complete the same project in 30 days. If A and B start working on the project together and A quits 10 days before the project is completed, in how many days will the project be completed?**

- A. 18 days
- B. 27 days
- C. 26.67 days
- D. 16 days
- E. 12 days

**Question 13**

**Ram, who is half as efficient as Krish, will take 24 days to complete a task if he worked alone. If Ram and Krish worked together, how long will they take to complete the task?**

- A. 16 days
- B. 12 days
- C. 8 days
- D. 6 days
- E. 18 days

**Question 14**

If  $u > t$ ,  $r > q$ ,  $s > t$ , and  $t > r$ , which of the following must be true?

- 1.  $u > s$
- 2.  $s > q$
- 3.  $u > r$

- (A) I only
- (B) II only
- (C) III only
- (D) I and II

(E) II and III

**Question 15**

The City Opera House is expanding. Currently the city block containing the opera house is rectangular-shaped with a total volume of 9600 feet. If the expanded Opera House is 2.5 times as long, wide, and deep as the original building, what would the new volume be?

**A** 24,000

**B** 60,000

**C** 72,000

**D** 150,000

**E** 245,000

**Question 16**

In a university club of 200 people, the number of Political Science majors is 50 less than 4 times the number of International Relations majors. If one fifth of the club members are neither Political Science majors nor International Relations majors, and no club member is majoring in both Political Science and International Relations, how many of the club members are International Relations majors?

**A** 42

**B** 50

**C** 71

**D** 95

**E** 124

**Question 17**

If the total cost of 20 pairs of shoes is equal to the total revenue generated from the sale of 25 pairs of shoes, what is the percent of profit or loss made on the sale of each pair of shoes, assuming each pair of shoes cost the same dollar amount and each pair of shoes sold for the same dollar amount?

**A** 25% loss

**B** 25% profit

**C** 20% loss

**D** 20% profit

**E** 5% profit

**Question 18**

Clarissa spent all day on a sightseeing trip in Britain. Starting from her hotel, Clarissa boarded a bus, which traveled at an average speed of 15 miles per hour through a 30 mile section of the countryside. The bus then stopped for lunch in London before continuing on a 3 hour tour of the city's sights at a speed of 10mph. Finally, the bus left the city and drove 40 miles straight back to the hotel. Clarissa arrived at her hotel exactly 2 hours after leaving London. What was the bus's average rate, approximately, for the entire journey?

**A** 8

**B** 14

**C** 21

**D** 25

**E** 30

**Question 19**

Meredith jogged to the top of a steep hill at an average pace of 6 miles per hour. She took the same trail back down. To her relief, the descent was much faster; her average speed rose to 14 miles per hour. If the entire run took Meredith exactly one hour to complete and she did not make any stops, how many miles, approximately, is the trail one way?



A  $\frac{2}{3}$

B  $\frac{3}{4}$

C  $\frac{4}{5}$

D  $\frac{5}{6}$

E  $\frac{6}{7}$

**Question 20**

At a medical research lab, nine doctors are conducting multiple clinical trials. Six of the doctors are working on a clinical trial with exactly one other doctor and three doctors are working on a clinical trial with exactly two other doctors. If two doctors are selected at random from the lab, what is the probability that those two doctors are NOT working together on a clinical trial?

A  $\frac{1}{12}$

B  $\frac{2}{12}$

C  $\frac{5}{12}$

D  $7/12$

E  $10/12$

**Question 21**

For which of the following functions  $g$  is  $g(z) = g(1 - z)$  for all  $z$ ?

A  $g(z) = 1 - z$

B  $g(z) = 1 - z^2$

C  $g(z) = z^2 - (1 - z)^2$

D  $g(z) = z^2(1 - z)^2$

E  $g(z) = z / 1 - z$

**Question 22**

A right triangle has sides that are consecutive even integers. The longest side is  $z$ . Which of the following equations could be used to find  $z$ ?

A  $(z - 4)^2 = z^2 - (z - 2)^2$

**B**  $(z - 2)^2 = (z - 4) - z^2$

**C**  $z^2 + 4z + 2z = 6z$

**D**  $(z - 2)^2 = z^2 - (z - 1)^2$

**E**

**Question 23**

Rectangle LMNO is inscribed in a circle with center P. If the area of the rectangle is 8 times its width, and the distance from P to side LM is 3, what is the circle's approximate circumference?

**A** 5

**B** 10

**C** 30

**D** 45

**E** 75

**Question 24**

Larry's Lawn Service charges  $\$w/\text{hour}$  for the first  $x$  hours of grass trimming, then  $w + 2$  dollars for every hour of work over  $x$  hours. How much more will a homeowner be charged for a grass trimming job that took  $z$  hours if  $z > x$  than for a job which took only  $w$  hours if  $x < w < z$ ?

**A**  $x(z + w)$

**B**  $(w + 2) - zx$

**C**  $(w + 2)(z - w)$

**D**  $xw + 2 - (z - w)$

**E**  $w(x + z) + x$

**Question 25**

Three positive integers  $a$ ,  $b$ , and  $c$  are such that their average is 20 and  $a \leq b \leq c$ . If the median is  $(a + 11)$ , what is the least possible value of  $c$ ?

- A. 23
- B. 21
- C. 25
- D. 26
- E. 24