

# Stage I Question Set 3

- 1) 20 questions
- 2) Completion time 30 to 40 minutes
- 3) Calculators are permitted
- 4) No penalty for incorrect answers
- 5) Diagrams are not drawn to scale

**QUESTION #1:**

**What is the largest number in this set?**

- a) 2    b) 2.02    c)  $2 + 0.009$     d)  $2.2 - .1$     e) 2.09

**QUESTION #2:**

**Joe spent 3% of his monthly salary (after deductions) on candy bars, 5% on video arcade games, and 35% on rent. What percentage of his salary does Joe have left?**

- a) 53%    b) 5.7%    c) 57%    d) 43%    e) none of the above

**QUESTION #3:**

**How many seconds are there between 8:00:00 a.m. and 11:12:00 p.m.?**

- a) 53,480    b) 912    c) 1632    d) 54,720    e) none of the above

**QUESTION #4:**

**$x = 4$ . Which of the following expressions represents the largest value?**

- a)  $-x + 8$     b)  $x + 4$     c)  $-1(4 - x)$     d)  $x^2$     e)  $\frac{1}{2}x + x$

**QUESTION #5:**

**A rectangular solid has dimensions 4 x 4 x 8. How many of the faces have dimensions of 4 x 8?**

- a) 4    b) 6    c) 2    d) 8    e) none of the above

**QUESTION #6:**

**If two-thirds of a number N is 4, what is five-thirds of N?**

- a) 15    b) 10    c) 3.6    d)  $6\frac{2}{3}$     e) none of the above

**QUESTION #7:**

**Evaluate**       $3 + \frac{3}{10} + \frac{3}{100} + \frac{3}{1000}$

- a) 3.330    b) 3.333    c) 0.3033    d) 3.633    e) none of the above

**QUESTION #8:**

**How many composite numbers are there between, and excluding, 10 and 20?**

- a) 5   b) 7   c) 6   d) 4   e) none of the above

**QUESTION #9:**

**Casey's gas tank is  $\frac{1}{4}$  full. The capacity of the gas tank is 30 litres. How many litres must be added to make the tank two-thirds full?**

- a) 12.5 litres   b) 20 litres   c) 6 litres   d) 7.5 litres   e) none of the above

**QUESTION #10**

**The sum of four numbers (p, q, r, s) is 190.  $p = q + 5$ .  $q = r + 5$ .  $r = s + 5$ . What does s equal?**

- a) 40   b) 50   c) 60   d) 55   e) none of the above

**QUESTION #11**

**Valene's room is a rectangle, with the length twice as long as the width. If the perimeter of the room is 24 meters, what is the length of the longer side in meters?**

- a) 12   b) 6   c) 4   d) 8   e) none of the above

**QUESTION #12**

**The average age of Amy, John, and Matthew is 17. If Amy is one year younger than Matthew, and Matthew is one year younger than John, how old is Amy?**

- a) 18   b) 12   c) 16   d) 33   e) none of the above



**QUESTION #13:**

**A square sheet of metal has four smaller identical squares cut out of each edge, as shown in the figure. If the box made by folding up the four sides has volume  $128 \text{ cm}^3$ , and the base of the box is  $8 \text{ cm} \times 8 \text{ cm}$ , what was the length of the side of the original large square?**

- a) 8 cm   b) 12 cm   c) 10 cm   d) 2 cm   e) none of the above

**QUESTION #14:**

**Ken was taking a road trip to California. On the first day he travelled 840 km in 12 hours of driving. The second day he travelled 700 km in 7 hours of driving. The third day he travelled 640 km in 8 hours. On which day did Ken have the fastest average speed?**

- a) the first day   b) the second day   c) the third day   d) the first and second days both had the fastest average speed.   e) none of the above

**QUESTION #15**

A circle has an area of  $25\pi$  cm<sup>2</sup>. What is its circumference in cm?

- a)  $5\pi$    b)  $10\pi$    c)  $20\pi$    d)  $25\pi$    e)  $50\pi$



**QUESTION #16:**

A regular hexagon is made up of 6 equilateral triangles (as shown in the figure). If the perimeter of the hexagon is 21 cm, what is the perimeter of one of the equilateral triangles?

- a) 10.5 cm   b) 8.5 cm   c) 9 cm   d) 7.5 cm   e) none of the above

**QUESTION #17**

Xavier and Yolanda were racing around a track. Yolanda's speed was 1.2 times as fast as Xavier's on this run. Xavier took 12 minutes to complete a 3.2 km run. How long did Yolanda take?

- a) 14.4 minutes   b) 10 minutes   c) 2.7 minutes   d) 38.4 minutes   e) none of the above

**QUESTION #18:**

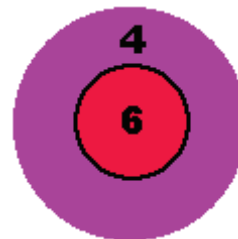
How many integers are there between 100 and 500 such that the sum of their digits is 6?

- a) 18   b) 16   c) 20   d) 21   e) none of the above

**QUESTION #19:**

A  $4 \times 4 \times 4$  cube has 4 sides painted blue, and 2 sides painted red. It is then cut into 64 unit cubes. How many cubes have both blue and red paint on them?

- a) 16   b) 32   c) 24   d) it depends on which sides are painted blue and which sides are painted red   e) none of the above



**QUESTION #20:**

Alex threw four darts, and hit the board each time. He added the scores from each hit together. How many different possible total scores could he have gotten?

- a) 4   b) 6   c) 5   d) 20   e) none of the above