1. In the figure at right, \( \triangle DAI \) is isosceles with \( DI = 13 \) and base 24. If \( \triangle VAI \cong \triangle DAI \) what is the area of quadrilateral \( DAVI \)?

   a. 60           b. 75           c. 120          d. 156          e. 240

2. An experimental jet flies at a speed of 5280 miles per hour. How many miles can this jet cover in 10 seconds?

   a. 1.467  b. 8.802  c. 11.237  d. 14.667  e. 88.022

3. If the angle (not shown) where \( a \) and \( b \) intersect is three times as large as the angle (not shown) where \( e \) and \( b \) intersect, what is the value of \( p \)?

   a. 70°   b. 85°   c. 140°
   d. 160°   e. Cannot determine

4. Let \( \zeta x \zeta \) be defined for all positive integer values of \( x \) as the product of all even factors of \( 4x \). For example, \( \zeta 3 \zeta = 12 \times 6 \times 4 \times 2 = 576 \). What is the value of \( \zeta 5 \zeta \)?

   a. 1600  b. 6400  c. 7200  d. 8000  e. 9600

5. The chart at right shows the distribution of topics covered in a particular business text, in chapters and pages per chapter. According to the chart, how many total pages are in this text?

<table>
<thead>
<tr>
<th>Topic</th>
<th>No. of Chapters</th>
<th>No. of pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>Marketing</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Public Relations</td>
<td>1</td>
<td>11</td>
</tr>
</tbody>
</table>

   a. 31  b. 39  c. 48  d. 65  e. 79
6. In the figure at right, what is the sum of \(x\) and \(y\)?
   Note: The figure is not drawn to scale.

7. If \(2^q = 8^{q-1}\), then \(q = ?\)

8. If \(a\) is 40 percent of 300, \(b\) is 40 percent of \(a\), and \(c\) is 25 percent of \(b\), what is \(a + b + c\)?

9. If \(\frac{x}{4} = \frac{11}{20}\), what is the value of \(x\)?

10. If \(\frac{3}{5}\) of \(\frac{1}{3}\) is added to 5, what is the answer?

**Answers**

1. C
2. D
3. C
4. A
5. E
6. 220°
7. \(q = \frac{3}{2}\)
8. 180
9. \(x = 2.2\)
10. 5 \(\frac{1}{5}\)