

<p>1. During a 10-week softball season, Jo got the following hits per week: 3, 8, 6, 1, 5, 7, 6, 5, 6, 3</p> <p>a Find the standard deviation of the number of hits.</p> <p>b The probability of Jo getting a hit is $\frac{1}{4}$. If she comes to bat three times, what is the probability that she will get at least two hits?</p>	
<p>2. On the first test of the quarter, the mean score was 80 and the standard deviation was 3. On the second test of the quarter, the mean score was 85 and the standard deviation was 2. On which test was there greater consistency of scores? Explain how you arrived at your answer.</p>	
<p>3. What is the third term in the expansion of $(a - 3b)^4$?</p>	<p>4. Express the complex number $(1 + 2i)^4$ in $a + bi$ form.</p>
<p>5. The sides of a triangle measure 6, 7, and 9. What is the cosine of the largest angle?</p> <p>(1) $-\frac{4}{84}$ (3) $\frac{4}{84}$</p> <p>(2) 81 (4) $-\frac{1}{81}$</p>	<p>6. The composite $r_{y=x} \circ r_{y\text{-axis}}(\triangle ABC) = \triangle A''B''C''$ is a</p> <p>(1) rotation (3) dilation</p> <p>(2) translation (4) reflection</p>

- 1. _____
- 2. _____
- 3. _____
- 4. _____
- 5. _____
- 6. _____

7. Carmen and Jamal are standing 5,280 feet apart on a straight, horizontal road. They observe a hot-air balloon between them directly above the road. The angle of elevation from Carmen is 60° and from Jamal is 75° . Draw a diagram to illustrate this situation and find the height of the balloon to the *nearest foot*.

8. Find, to the *nearest tenth of a degree*, all positive values of θ less than 360° that satisfy the equation $5 \cos^2 \theta - 6 \sin \theta = 0$.