

Name _____ HWK Basics of Normal Curve 1-8-19 will be checked at beginning of period 1-9-18

$$Z = \frac{x - \bar{x}}{s} \quad \text{where } \bar{x} = \text{mean of sample and } s = \text{sample standard deviation}$$

<p>1. Given a mean of 2500 and standard deviation of 100 Determine $P(x \leq 2475)$</p> <p>USING CHART Related z score and probability $Z = -0.25$ $P(x \leq 2475) = 0.4013$</p>	<p>2. Given a mean of 2500 and standard deviation of 100 Determine $P(x \leq 2675)$</p> <p>USING CHART Related z score and probability $Z = 1.75$ $P(x \leq 2675) = 0.9599$</p>
<p>3. Given a mean of 2500 and standard deviation of 100 Determine $P(x \geq 2460)$</p> <p>USING CHART Related z score and probability $Z = -0.40$ $P(x \geq 2460) = 0.6554$</p>	<p>4. Given a mean of 2500 and standard deviation of 100 Determine $P(x \geq 2620)$</p> <p>USING CHART Related z score and probability $Z = 1.20$ $P(x \geq 2620) = 0.1151$</p>

5. Which problems had negative Z scores? Explain WHY #1, #3 X score < mean

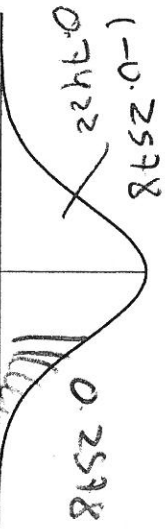
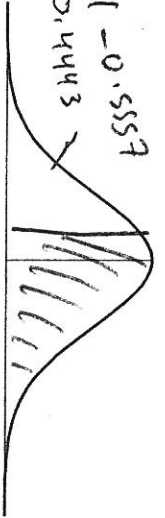
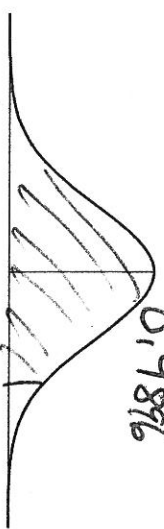
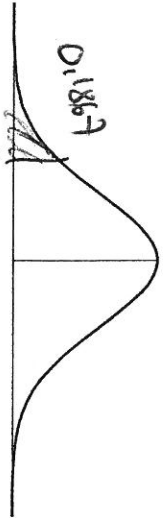
6. Which problems required the use of a complement? Explain WHY

#3 & #4 g-code trans symbol
" $X \geq \#$ "

$$Z = \frac{x - \text{mean}}{SD}$$

$$X = Z(SD) + \text{mean}$$

<p>7. Given a mean of 2500 and standard deviation of 100 GIVEN $P(x \leq A) = 0.1867$</p> <p>USING CHART Determine related z score and x score</p> <p>$Z = \underline{-0.89}$ $A = \underline{2411}$</p> <p>$-0.89(100) + 2500 = 2411$</p>	<p>8. Given a mean of 2500 and standard deviation of 100 Determine $P(x \leq B) = 0.9896$</p> <p>USING CHART Determine related z score and x score</p> <p>$Z = \underline{2.31}$ $B = \underline{2731}$</p> <p>$2.31(100) + 2500 = 2731$</p>
<p>9. Given a mean of 2500 and standard deviation of 100 Given $P(x \geq C) = 0.5557$</p> <p>USING CHART Related z score and probability</p> <p>$Z = \underline{-0.14}$ $C = \underline{2486}$</p> <p>$-0.14(100) + 2500 = 2486$</p>	<p>10. Given a mean of 2500 and standard deviation of 100 Given $P(x \geq D) = 0.2578$</p> <p>USING CHART Related z score and probability</p> <p>$Z = \underline{0.65}$ $D = \underline{2565}$</p> <p>$0.65(100) + 2500 = 2565$</p>



11. Explain why #7 and #8 are easier to answer than #9 and #10

the inequalities shade to left

12. What happens if the probability you are given does NOT fall within your z chart? pick the % closest to probability

13. Where are probabilities written in the Z chart? On the outside edges or in the main body of the chart?

main body of chart