

Normal Distributions Worksheet

Name _____

The following distributions are very normal – symmetric, bell-shaped and with room in both tails for at least 2 two standard deviations of scores.

Males' resting heart rate: $N(70,8)$ – units are beats / minute
Females' resting heart rate: $N(75,8)$ – units are beats / minute
SAT component scores: $N(500,100)$
IQ scores: $N(100,15)$

The following distributions are from Stats Surveys:

Stress: $N(35,14)$
Toxic Relationship Beliefs: $N(28,6)$
Perfectionism: $N(80,32)$

Directions: Use the distributions above and your knowledge of z-scores and p-values to solve the following problems.

1. David's stress score is 15. What is percentile ranking?
2. Anna is 25th percentile for females' resting heart rate. What is her heart rate?
3. Find the middle 90% of the IQ distribution.
4. What percentage of North Georgia students have Stress scores between 20 and 40?

5. Ben scored in the 85th percentile for his SAT mathematics. What was his score?
6. Find the middle 80% of the Toxic Relationship Beliefs scale.
7. What percentage of males have resting heart rates between 60 and 75?
8. Carmen had a Perfectionism score of 115. What is her percentile ranking?
9. What percentage of males have resting heart rates below the 40th percentile score for females' resting heart rate?