

(GC) 1. For each value, find the percentile.

- a.  $z = 2.24$                       b.  $z = -1.65$                       c.  $z = 1.47$

(GC) 2. For each value, find the percent of cases falling above the  $z$ -score.

- a.  $z = 0.24$                       b.  $z = -1.11$                       c.  $z = 1.22$

(GC) 3. For each value, find the percent of cases falling between the two  $z$ -scores.

- a.  $z = -0.38$  and  $z = 1.63$                       b.  $z = 0.88$  and  $z = 1.55$                       c.  $z = -2.22$  and  $z = -1.34$

4. For each percentile ranking, find the  $z$ -score.

- a. 16<sup>th</sup> percentile                      b. 97.5<sup>th</sup> percentile                      c. 50<sup>th</sup> percentile

5. The weights of 1000 children were recorded on their first birthday. The weights are normally distributed with mean 10.3 kg and standard deviation 1.6 kg.

(GC) a. What is the probability that a randomly selected child will weigh less than 10 kg?

b. What is the probability that a randomly selected child will weigh between 8.7 kg and 11.9 kg?

(GC) c. How many of the 1000 children would you expect to weigh between 8.3 kg and 12.3 kg?

d. How many of the 1000 children would you expect to weigh more than 8.7 kg?

6. A fifth grader takes a standardized achievement test ( $\mu = 125$ ,  $s = 15$ ) and scores 170. What is this child's percentile rank?

(GC) 7. Michelle and Chris both took a spatial abilities test ( $\mu = 80$ ,  $s = 8$ ). Michelle scored a 76 and Chris scored a 94. What percent of individuals would score between Michelle and Chris?

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