12. SP.1 · Sensation, perception and psychophysics

Starter Quiz ·

GRE Subject Test · GRE Psychology Name: _____ Score: _____

1. Weber fraction 0.05. Smallest detectable increase from 400 g, in g?

   _____

2. A light of 60 units has a JND of 3 units. What JND is expected at 300 units?

   _____

3. Seeing a circle with a small gap as a complete circle illustrates

   ☐ closure

   ☐ proximity

   ☐ common fate

   ☐ similarity

4. A higher hit rate always means better sensitivity.

   ☐ True ☐ False

5. Converting light or sound energy into neural signals is called _____.

   _____

6. A study defines a faint tone threshold as the intensity detected on half of its trials. Which threshold is being operationalised?

   ☐ Difference threshold

   ☐ The probability of every response being correct

   ☐ Absolute threshold

7. Equally spaced identical dots separate into two sets moving in different directions. Which cue best explains grouping by those sets?

   ☐ Common fate

   ☐ Proximity

   ☐ Closure

8. Categorical perception means that every difference within a phoneme category is impossible to hear.

   ☐ True ☐ False

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1. **20**

   Weber's law: $\Delta I = k \times I = 0.05 \times 400$ g $= 20$ g. The just-noticeable difference grows in proportion to the starting intensity.

2. **15**

   The Weber fraction is $3 / 60 = 0.05$. At 300 units the JND is $0.05 \times 300 = 15$ units.

3. **closure**

   Closure is the Gestalt tendency to perceive incomplete figures as whole by filling in missing parts. Proximity and similarity group separate items; common fate groups items moving together.

4. **False**

   A more liberal response criterion can increase hits and false alarms. A hit-rate increase alone does not establish improved sensitivity.

5. **transduction**

   Sensory receptors convert physical stimulation into neural signals. Adaptation is a change in response over continued exposure, not the conversion itself.

6. **Absolute threshold**

   The criterion concerns detecting a stimulus level, not discriminating a change from a baseline.

7. **Common fate**

   Equal spacing and appearance do not separate the sets; shared motion does.

8. **False**

   Discrimination can be better across category boundaries than within them for equal physical changes; this is not an absolute inability to detect all within-category variation.