University Business Name: _____ Score: _____

1. p = 0.62, n = 408. The half-width of the 95% interval, in percentage points (one decimal)?

   _____ pp

2. 179 of 408 respondents are busy professionals. The share, in % (nearest whole)?

   _____ %

3. Takeaway avoided 35 pounds; bundle price 29. The visible economic surplus, in pounds?

   _____ £

4. Bundle 29 for 5 meals, variable cost 3.10 a meal. The CM per meal, to two decimals?

   _____ £

5. Shelf 6.50, retailer margin 30%. What Nimbus receives and the CM per meal?

   _____ £ CM

6. A headline rewrite lifts CTR from 1.8% to 2.6% and the trial rate falls from 15.0% to 11.8%. Net effect on trials?

   ☐ cannot be computed

   ☐ the trial rate is irrelevant

   ☐ clearly better: CTR is the goal

   ☐ about the same or worse - and the wrong visitors now pollute every later metric

7. Operations delivers 94% by 6 pm. Which ad line is right?

   ☐ "never late" - bolder

   ☐ "delivered by 6 pm, 94% of the time" - the number the evidence carries

   ☐ "always by 6 pm" - aspirational

   ☐ no claim at all - hide the metric

8. Intent 62%; the A/B offer to 200 converts 27 (13.5%). The honest reading?

   ☐ stated intention overstates purchase - the behavioural number governs

   ☐ the survey was wrong and should be discarded

   ☐ the A/B test was unlucky; trust 62%

   ☐ average them: about 38%

9. Why is the 126,000 annual figure called a ceiling, not a forecast?

   ☐ it is the wrong arithmetic

   ☐ it includes the fitness segment by mistake

   ☐ it ignores the price

10. Why does the campaign lead with augmented features rather than the meals themselves?

    ☐ core benefits sell better

    ☐ the meals are not good

    ☐ augmented features are cheaper

    ☐ the augmentation takes years of systems to copy; a meal takes a quarter

1. **4.7 pp**

   $1.96\sqrt{0.62 \times 0.38/408} = 0.047$ -> the interval is [57.3%, 66.7%].

2. **44 %**

   179/408 = 43.9% - the largest block, and it passes all three criteria.

3. **6 £**

   $35 - 29 =$ £6 visible, plus time and mental-load benefits - the ceiling a price rise could capture part of.

4. **2.7 £**

   $29/5 = 5.80$ effective; $5.80 - 3.10 =$ £2.70 - the subscription's engine.

5. **1.45 £ CM**

   Nimbus receives $6.50 \times 0.70 =$ £4.55; CM $= 4.55 - 3.10 =$ £1.45.

6. **about the same or worse - and the wrong visitors now pollute every later metric**

   Clicks rise to $120{,}000 \times 0.026 = 3{,}120$; at 11.8% of (approx.) visits, trials do not improve - and the cohort quality drops. Gameable metrics trade tomorrow for today.

7. **"delivered by 6 pm, 94% of the time" - the number the evidence carries**

   An absolute claim plus one 6:15 delivery equals a false ad. The honest claim is not the cautious one; it is the substantiable one - and the rate itself signals candour.

8. **stated intention overstates purchase - the behavioural number governs**

   The intent-to-behaviour gap is the most replicated finding in the field: use the survey to aim, the experiment to decide.

9. **it assumes full retention and the stated conversion - the funnel will discount both**

   $180 \times 0.27 \times 5 \times 2.70 \times 52$ is the full-retention ceiling; unit 7.6's real funnel (15% trial, churn) does the discounting.

10. **the augmentation takes years of systems to copy; a meal takes a quarter**

    Defensibility lives where copying is slow - slot logistics, subscription systems, trust. Product policy follows the moat.