Teacher Answer Key

Case Study

1. The tension discs only open when the presser foot is raised, so threading with the foot down slides the thread past the discs instead of between them. With no upper tension applied, the needle pulls far too much thread on each stitch, and that excess collects as a nest of loose loops on the underside of the fabric.

2. The rule tells him which of the two threads is at fault based on which side the loose loops appear, so loops underneath point to the upper thread and loops on top point to the bobbin. Rethreading the bobbin repeatedly only fixes one possible cause by luck, while the rule lets him identify the actual source of any tension problem on the first try.

Multiple Choice

1. D

2. C

3. B

Matching

1-D, 2-E, 3-A, 4-C, 5-B

Fill-in-the-Blank

1) bobbin, 2) toward, 3) shatter

Short Answer (Sample Responses)

Q1: The needle carries the upper thread down and forms a loop below the fabric, a hook passes that loop around the bobbin thread, and the take-up lever pulls it tight so the two threads interlock inside the layers. This matters because neither thread has to be pulled its full length through the fabric on every stitch, which is what made hand sewing too slow to mechanize.

Q2: The needle moves faster than a person can react, so once the pedal is pressed there is no opportunity to pull a hand away in time. That means the only real protection is deciding where hands sit before sewing starts, keeping them to the sides of the presser foot and guiding rather than pushing the fabric.

Q3: A test seam on the actual fabric, doubled the way the real seam will be, confirms tension, stitch length, and needle choice all at once in about thirty seconds. It catches puckering, skipped stitches, and tension nests before they are sewn into

a real garment, which is the difference between a quick adjustment and unpicking a finished seam.