

Command of Evidence

Question 1

In the given scatterplot, a line of best fit for the data is shown.

Which of the following is closest to the slope of the line of best fit?

- A $-\$2.42$
- B $-\$0.22$
- C $\$0.22$
- D $\$2.42$

Question 2

In a paper for an art history class, a student claims that Agnes Martin's 1957 painting *Harbor Number 1* marks a significant change in Martin's artistic development.

Which quotation from an art history textbook would most effectively support the student's claim?

- A** *Harbor Number 1* has been analyzed extensively since it was first exhibited, as no two viewers seem to agree about exactly what the painting means.
- B** Although Martin was clearly influenced by other artists of her time, she was also an artist ahead of her time, as *Harbor Number 1* demonstrates.
- C** The paintings that Martin produced before *Harbor Number 1* can be thought of as belonging to her earlier style, to which she never returned.
- D** Of all Martin's paintings, none so clearly represents her abilities and ideas as *Harbor Number 1*.

Question 3

The Garden Party is a 1922 short story by Katherine Mansfield. In the story, the narrator highlights the stark contrast between the wealthy Sheridan family's estate and the nearby lower-class dwellings, describing the cottages as an intrusive and aesthetically displeasing presence that violates the neighborhood's exclusivity, writing _____

Which quotation from *The Garden Party* most effectively illustrates the claim?

- A** True, they were far too near. They were the greatest possible eyesore, and they had no right to be in that neighbourhood at all. They were little mean dwellings painted a chocolate brown.
- B** The telephone. "Yes, yes; oh yes. Kitty? Good morning, dear. Come to lunch? Do, dear. Delighted of course. It will only be a very scratch meal—just the sandwich crusts and broken meringue-shells..."
- C** Darling little spots. Especially the one on the inkpot lid. It was quite warm. A warm little silver star. She could have kissed it.
- D** She found herself in a wretched little low kitchen, lighted by a smoky lamp. There was a woman sitting before the fire.

Question 4

Migratory birds possess a remarkable ability to navigate vast distances, a feat attributed in part to their capacity to sense Earth's geomagnetic field. Pioneering research by Roswitha and Wolfgang Wiltschko in the 1970s first demonstrated this magnetic sense in European robins. Subsequent studies have largely pointed to a radical-pair mechanism involving light-sensitive proteins called *cryptochromes* (Cry) within the birds' eyes as the biological basis for magnetoreception. Recent investigations, including a 2021 study, have focused on specific cryptochrome isoforms. A team led by Dr. Elizabeth Green, investigating *Cry4* expression in the retinas of migratory warblers, hypothesizes that elevated levels of *Cry4* protein are directly correlated with an enhanced ability to perceive magnetic cues, thus facilitating long-distance navigation.

Which finding, if true, would most directly support Dr. Green's hypothesis?

- A** Genetic analysis reveals that *Cry4* is present in the retinal cells of virtually all avian species, regardless of their migratory status.
- B** Migratory warblers bred in captivity, genetically engineered to express higher levels of *Cry4* in their retinas, exhibit superior directional accuracy when exposed to controlled magnetic fields.
- C** Experiments show that altering the intensity of visible light impacts the activity of *Cry1* in the brain, a cryptochrome known to regulate circadian rhythms in birds.
- D** Behavioral studies indicate that wild migratory birds rely primarily on celestial cues, such as the sun and stars, for their short-distance orientation during non-migratory seasons.

Question 5

Time and Life is a poem by Algernon Charles Swinburne. In the poem, Swinburne presents a dual perspective on the nature of Time, suggesting that while it is often perceived as a relentless source of suffering and destruction, it also ultimately offers a necessary respite from the weariness of existence, writing

Which quotation from *Time and Life* most effectively illustrates the claim?

- A "Nay, but rest is born of me for healing, | - So might haply time, with voice repress, | Speak: is grief the last gift of my dealing? | Nay, but rest."
- B "Time, thy name is sorrow, says the stricken | Heart of life, laid waste with wasting flame | Ere the change of things and thoughts requicken, | Time, thy name."
- C "All the world is wearied, east and west, | Tired with toil to watch the slow sun wheeling, | Twelve loud hours of life's laborious quest."
- D "Girt about with shadow, blind and lame, | Ghosts of things that smite and thoughts that sicken | Hunt and hound thee down to death and shame."

Question 6

O Star of France is a poem by Walt Whitman. In the poem, Whitman addresses the personified nation, asserting that while France is not without flaws, the severity of its suffering has absolved it of its wrongdoings.

Which quotation from *O Star of France* most effectively illustrates the claim?

- A The brightness of thy hope and strength and fame, | Like some proud ship that led the fleet so long, | Beseems to-day a wreck, driven by the gale—a mastless hulk.
- B Orb not of France alone—pale symbol of my soul, its dearest hopes, | The struggle and the daring—rage divine for liberty, | Of aspirations toward the far ideal—enthusiast's dreams of brotherhood.
- C Finish'd the days, the clouds dispell'd, | The travail o'er, the long-sought extrication, | ... | Again thy star, O France—fair, lustrous star, | ... | Shall beam immortal.
- D Miserable! yet for thy errors, vanities, sins, I will not now rebuke thee; | Thy unexampled woes and pangs have quell'd them all, | And left thee sacred.

Question 7

In a 2021 study, researchers Marc-Olivier Beaudoin, Olivier Hardy, and Jean-Pierre Savard investigated the impact of climate change on the migratory patterns of raptors. They focused on how shifts in phenology—the timing of biological events—might create ecological mismatches. Their analysis suggested that increasing global temperatures are altering the peak availability of prey at critical stopover and breeding sites, leading to a disconnect with the birds' traditional arrival times. This asynchronous timing, termed *phenological mismatch*, could negatively affect the raptors' reproductive success and overall population dynamics. The researchers hypothesized that if migratory birds arrive significantly out of sync with peak prey abundance, their foraging efficiency and nesting outcomes will decline.

Which finding, if true, would most directly support the researchers' hypothesis?

- A** The average migratory distance covered by several raptor species has significantly increased over the past two decades due to altered weather patterns.
- B** Raptor populations that consistently arrive at their breeding grounds either before or after the seasonal peak in insect biomass exhibit lower chick survival rates.
- C** Satellite tracking data reveals that many raptor species are altering their traditional migratory routes to warmer latitudes earlier in the spring.
- D** A decline in global raptor populations is strongly correlated with a general reduction in biodiversity across multiple ecosystems.

Question 8

Climate change significantly impacts insect populations, particularly specialist herbivores that rely on specific host plants. As temperatures rise and habitats shift, these insects often expand their geographic ranges poleward or to higher elevations. However, successful range expansion is contingent upon the availability of suitable host plants within the newly colonized areas. A study by Elena Rossi and colleagues in 2013 investigated the range expansion of the European distribution of the butterfly *Lasiommata megera*. They observed a significant northward shift in the butterfly's distribution. Based on their analysis of climate data and host plant distribution models, Rossi and her team concluded that while warming temperatures facilitated the butterfly's ability to survive in previously inhospitable northern latitudes, the primary driver of its observed range expansion was the concurrent northward expansion of its preferred larval host plants.

Which finding, if true, would most directly undermine Rossi and colleagues' conclusion?

- A** Surveys show that *Lasiommata megera* populations are establishing themselves in northern areas where their traditional host plants are not yet prevalent.
- B** Genetic analysis reveals that northern *Lasiommata megera* populations have higher heat tolerance than southern populations.
- C** The flight period of *Lasiommata megera* has shifted earlier in the season in both southern and northern parts of its range.
- D** A separate study indicates that another butterfly species, *Pieris rapae*, has also expanded its range northward in recent decades.

Question 9

Research by Lei Zhang and colleagues in 2020 investigated the impact of anthropogenic aerosols originating from urban environments on convective cloud dynamics over East China. Analyzing observational data and employing numerical modeling, the team focused on understanding how elevated concentrations of fine particulate matter influence cloud microphysics and macrophysics. Their findings suggested that urban aerosols predominantly exert a *thermodynamic* effect on convective systems, primarily through latent heat release during condensation. This mechanism, the researchers concluded, leads to a significant invigoration of convection, specifically enhancing the *vertical* development of cloud towers rather than substantially altering cloud albedo or overall precipitation efficiency.

Which finding, if true, would most directly undermine the researchers' conclusion?

- A** Subsequent analysis confirms that latent heat release during condensation is the primary thermodynamic mechanism driving urban aerosol impacts on convection.
- B** Observations in similar environments show that urban aerosols primarily lead to a significant increase in cloud lifetime and horizontal extent, with minimal impact on vertical growth.
- C** Data from rural areas indicate that natural aerosols have a negligible effect on convective cloud development compared to urban aerosols.
- D** Further modeling reveals that urban aerosols also enhance cloud albedo, leading to a localized cooling effect over urban areas.

Question 10

Note: Figure not drawn to scale. In the figure, parallel lines a and b are intersected by lines c , d , and e . If $z = 71^\circ$, $y = 114^\circ$, and $v < z$, which statement about x and w must be true?

- A $x < w$
- B $x > w$
- C $x = w$
- D $x + w = 90$

Question 11

A Rose-bud by my Early Walk is a song by Robert Burns. In the song, the speaker draws a parallel between nature and human life, suggesting that just as a young linnet (a bird) will eventually grow to delight the woods with her offspring, a young woman named Jeany will mature to repay the nurturing she received in her youth through her own talents or presence _____.

Which quotation from *A Rose-bud by my Early Walk* most effectively illustrates the claim?

- A "A ROSE-BUD by my early walk, | Adown a corn-enclosed bawlk, | Sae gently bent its thorny stalk, | All on a dewy morning."
- B "Within the bush her covert nest | A little linnet fondly prest; | The dew sat chilly on her breast, | Sae early in the morning."
- C "So thou, dear bird, young Jeany fair, | On trembling string or vocal air, | Shall sweetly pay the tender care | That tents thy early morning."
- D "Ere twice the shades o' dawn are fled, | In a' its crimson glory spread, | And drooping rich the dewy head, | It scents the early morning."

Question 12

Pride and Prejudice is an 1813 novel by Jane Austen. In the novel, Austen portrays Elizabeth Bennet as possessing a spirited wit that challenges social expectations; interestingly, this very quality renders her captivating to Mr. Darcy, even as he remains conscious of their disparity in social standing, writing _____.

Which quotation from *Pride and Prejudice* most effectively illustrates the claim?

- A "His appearance was greatly in his favour; he had all the best part of beauty, a fine countenance, a good figure, and very pleasing address. The introduction was followed up on his side by a happy readiness of conversation—a readiness at the same time perfectly correct and unassuming."
- B "They attacked him in various ways—with barefaced questions, ingenious suppositions, and distant surmises; but he eluded the skill of them all, and they were at last obliged to accept the second-hand intelligence of their neighbour."
- C "There was a mixture of sweetness and archness in her manner which made it difficult for her to affront anybody; and Darcy had never been so bewitched by any woman.... He really believed, that were it not for the inferiority of her connections, he should be in some danger."
- D "Lady Catherine seemed quite astonished at not receiving a direct answer; and Elizabeth suspected herself to be the first creature who had ever dared to trifle with so much dignified impertinence."

Question 13

The House of Mirth is a 1905 novel by Edith Wharton. In the novel, Wharton portrays the character Lily Bart's internal emotional state as sharply contrasting with her external demeanor; specifically, the author suggests that while Lily relies on her pride to maintain a composed facade, she privately suffers from the sting of Lawrence Selden's perceived abandonment _____.

Which quotation from *The House of Mirth* most effectively illustrates the claim?

- A "I'm confoundedly gone on you—that's about the size of it—and I'm just giving you a plain business statement of the consequences. You're not very fond of me—YET—but you're fond of luxury, and style."
- B "She could not put him before herself in any light but the noblest: she must trust him to the height of her own passion. 'Yes: I know him; he will help you,' she said."
- C "She had in truth felt his long absence as one of the chief bitternesses of the last months: his desertion had wounded sensibilities far below the surface of her pride."
- D "Constraint had the effect of restoring her self-possession, and she took at once the tone of surprise and pleasure, wondering frankly that he should have traced her to so unlikely a place."

Question 14

Studies have shown that artificial light at night (ALAN) can disrupt wildlife. In 2022, researchers led by Dr. Fiona Davies examined the effects of ALAN on the activity patterns of *nocturnal raptors*, specifically the *great horned owl* (*Bubo virginianus*), in urban-adjacent forests. They hypothesized that increased ALAN near forest edges would lead to decreased hunting forays into those brightly lit areas, impacting their foraging success. Using GPS tracking data from tagged owls and satellite imagery of light intensity, the team correlated owl movement patterns with ALAN levels over several months. Their findings indicated that owls spent significantly less time hunting within brightly lit zones compared to adjacent darker forest interiors. The researchers concluded that artificial light pollution inhibits *Bubo virginianus* hunting activity near urban edges.

Which finding, if true, would most directly support the researchers' conclusion?

- A The primary prey species of *Bubo virginianus* are less abundant in brightly lit urban areas.
- B *Bubo virginianus* are observed spending more time perched and less time actively searching for prey when in areas with high levels of ALAN.
- C Other raptor species, such as the *barn owl*, show no change in hunting behavior in response to ALAN.
- D The overall population of *Bubo virginianus* has slightly increased in regions with moderate ALAN levels.

Question 15

In a study by Reinout van der Kuilen and Peter P. Wakker in 2011 concerning information sharing in group decision-making, researchers investigated the impact of communication structure on judgments. They established experimental groups where individuals had access to varying levels of information before engaging in a collective decision task involving ambiguous prospects. The study found that groups with a decentralized communication structure, allowing free exchange of private information among members, consistently made decisions that were closer to the expected value of the prospects compared to groups with centralized or no communication. The researchers concluded that decentralized information sharing structures enhance the rationality of group decisions in contexts of ambiguity.

Which finding, if true, would most directly undermine the researchers' conclusion?

- A** Groups with centralized communication structures, where information was filtered through a leader, also made decisions closer to the expected value when the leader was highly skilled in evaluating ambiguous prospects.
- B** Individuals in decentralized communication groups reported higher levels of satisfaction with the decision-making process compared to those in centralized groups.
- C** The study's experimental design did not account for the possibility of social loafing, where individuals exert less effort in a group setting.
- D** A follow-up study found that in tasks involving risk (where probabilities are known), decentralized groups did not consistently outperform centralized groups in terms of decision rationality.

Question 16

Behavioral economists have long studied factors influencing prosocial behavior, particularly trust and reciprocity in economic games. In their 2002 paper, Ernst Fehr and Simon Gächter explored how individuals respond to perceived intentions rather than just outcomes. They observed that participants in a trust game were more likely to reciprocate positive actions when they believed the initial act was driven by altruistic motives, even if the monetary gain was identical. Conversely, if the initial act was perceived as self-serving, even if it benefited the receiver, subsequent cooperation diminished. The researchers hypothesize that genuine reciprocity, where individuals are willing to incur costs to reward kindness or punish unkindness, is primarily contingent on the perceived intent behind an action.

Which finding, if true, would most directly support the researchers' hypothesis?

- A** Participants in a follow-up experiment exhibit significantly higher levels of cooperation when an initial beneficial act is described as spontaneous and unprompted, even if the financial gain for the recipient remains constant.
- B** Increased transparency about the monetary gains of all players in an economic game leads to a general decrease in all forms of reciprocal behavior.
- C** Individuals who frequently engage in prosocial behavior in daily life are also more likely to reciprocate positive actions in economic games, regardless of the perceived intent.
- D** The duration of an economic game, rather than the perceived intent of players, is the strongest predictor of whether participants will engage in costly punishment of unfair behavior.

Question 17

Stephen Machado and colleagues found that tilling—the practice of turning soil with hoes, plows, or other machines before planting crops—was associated with an increased yield of spring barley. But some studies of other crops have found the opposite effect, raising the question of whether the increase in yield found by Machado and colleagues is specific to their study crop. However, this doesn't seem to be the case: _____

Which choice most effectively uses data from the table to complete the assertion?

- A** Amos Ngwira and colleagues found a similar association in a study using maize.
- B** a study using spring barley yielded 3,960 kilograms per hectare with tilling and only 1,230 kilograms per hectare without tilling.
- C** Min Huang and colleagues reported an even larger positive effect of tilling on the yield of rice.
- D** crop yields with tilling have ranged from 2,024 kilograms per hectare for winter wheat to \$3,960\$ kilograms per hectare for spring barley.

Question 18

Little Women is a 1868 novel by Louisa May Alcott. In the novel, Alcott characterizes the young Amy March as being keenly aware of social dynamics, suggesting that she derives satisfaction not only from her own presentation but also from the aesthetic appeal and impressiveness of her companion.

Which quotation from *Little Women* most effectively illustrates the claim?

- A “People don’t have fortunes left them in that style nowadays; men have to work, and women to marry for money. It’s a dreadfully unjust world,” said Meg bitterly.
- B “Good evening, Apollo!” she answered... for he, too, looked unusually debonair, and the thought of entering the ballroom on the arm of such a personable man caused Amy to pity the four plain Misses Davis from the bottom of her heart.
- C “Here are your flowers; I arranged them myself, remembering that you didn’t like what Hannah calls a ‘sot-bookay,’ ” said Laurie, handing her a delicate nosegay, in a holder that she had long coveted...
- D “Jo and I are going to make fortunes for you all; just wait ten years, and see if we don’t,” said Amy, who sat in a corner, making mud pies, as Hannah called her little clay models...

Question 19

The endowment effect, a well-documented cognitive bias, posits that individuals place a higher monetary value on objects they own compared to identical objects they do not possess. Recent research by Dr. Eleanor Vance and her colleagues (2022) explored the social dimensions of this phenomenon, specifically how perceived group ownership might modulate the effect. They conducted experiments where participants were endowed with an item and then asked to price it, but with a twist: the item was presented as belonging to either the individual, a small designated group they were part of, or a random collection of people. Initial findings suggested the endowment effect was strongest when personal ownership was emphasized. However, Vance hypothesizes that the magnitude of the endowment effect can be significantly amplified when individuals perceive a shared identity with the group that collectively "owns" the item.

Which finding, if true, would most directly support Vance's hypothesis?

- A** Participants consistently placed a lower value on items designated as belonging to a random collection of people than on items belonging to an individual.
- B** The endowment effect was observed even when participants were unaware that they "owned" the item, suggesting an unconscious cognitive process.
- C** When participants were made to feel a strong sense of camaraderie and shared purpose with their designated group, their valuation of group-owned items increased dramatically.
- D** Individuals who had a history of collaborative tasks prior to the experiment exhibited a diminished endowment effect for personally owned items.

Question 20

In a 2024 demographic analysis, United Nations researchers investigated longitudinal shifts in geriatric population distributions. They observed that global demographic transitions are increasingly characterized by significant expansions in the cohort aged 65 and older. This trend is facilitated by enhanced longevity and widespread therapeutic interventions. However, the researchers noted that regional trajectories vary significantly across the globe. The researchers conclude that Asian demographic trends will be the primary driver of the global elderly population expansion through 2054.

Which choice best describes data from the graph that support the researchers' conclusion?

- A** The global population of people aged 65 and older is projected to reach 1,440 million by 2045, while Asia's elderly population is expected to reach 885 million in that same year.
- B** From 2024 to 2054, the global elderly population is projected to increase by 870 million, with Asia's elderly population alone accounting for 550 million of that total increase.
- C** By 2054, Asia is projected to have 1,050 million elderly residents, which is more than the total global elderly population recorded in the year 2024.
- D** The projected number of people aged 65 and older in Asia will reach 885 million by 2045 and 1,050 million by 2054, while the global total reaches 1,700 million in the latter year.

Answers

Question 1

Correct Answer: C

- The line of best fit is increasing, so the slope is positive.
- Read two convenient points on the line. From the graph, it is about at (0, 2.5) and (10, 4.5).
- Compute the slope using $m = \frac{\Delta y}{\Delta x} = \frac{4.5 - 2.5}{10 - 0} = 0.2$.
- The choice closest to 0.20 is 0.22.

Therefore, the slope is closest to choice C.

Question 2

Correct Answer: C

We need to find the answer that supports the student's claim. An effective support for it would be a quotation that indicates a shift or departure in Martin's work at or around the time of *Harbor Number 1*. (C) directly states that paintings *before* Harbor Number 1 belong to an "earlier style" to which Martin "never returned," clearly indicating that Harbor Number 1 marked a significant change. (C) is the correct answer.

(A) discusses viewer disagreement about meaning, not a change in Martin's development.

(B) suggests Martin was ahead of her time, which doesn't directly address a *change* in her style.

(D) emphasizes the painting's representation of her abilities, not a developmental shift.

Question 3

Correct Answer: A

(A) is the correct answer as it directly uses words like "eyesore" and "no right to be in that neighbourhood" to describe the cottages, illustrating the claim that they are an aesthetically displeasing and intrusive presence.

(B) is incorrect because it depicts a conversation about social plans and food, which is unrelated to the description of the cottages. (C) is incorrect because it focuses on a character's appreciation of a small, beautiful detail (sunlight on an inkpot), unrelated to the cottages. (D) is incorrect because while it describes the poverty of the neighbors (a wretched kitchen), it focuses on the interior conditions rather than the cottages' external intrusion on the Sheridan's neighborhood.

Question 4

Correct Answer: B

The passage says that Dr. Green thinks that more *Cry4* protein helps birds sense magnetic fields better for long trips.

(A) says that *Cry4* is in all birds, even those that don't migrate. This doesn't tell us if *more Cry4* helps with navigation. It doesn't support the idea that higher levels of *Cry4* lead to better navigation.

(B) says that when birds are made to have more *Cry4*, they get better at finding their way using magnetic fields. This directly supports Dr. Green's idea that more *Cry4* helps birds navigate better.

(C) talks about a different protein (*Cry1*) and its job with body clocks, not about *Cry4* and magnetic sensing. So, it is not related.

(D) talks about birds using the sun and stars for short trips, not about magnetic fields or the *Cry4* protein. So, it is not related to Dr. Green's idea.

Question 5

Correct Answer: A

(A) is the correct answer because it directly captures the dual perspective mentioned in the claim. The lines acknowledge the question of whether grief is the only gift (implying the suffering mentioned in the first part of the claim) but then counter it by asserting that 'rest is born of me for healing,' which illustrates the second part of the claim about offering respite.

(B) portrays Time solely as 'sorrow' and a 'wasting flame,' focusing only on the destructive aspect and ignoring the idea of respite.

(C) describes the weariness of the world and the 'laborious quest' of life, but it does not attribute the relief or respite to Time itself; it merely sets the scene for why rest is needed.

(D) focuses exclusively on the negative, haunting aspects of existence ('death and shame') and does not illustrate the idea that Time provides rest or healing.

Question 6

Correct Answer: D

(D) is the correct answer as it directly addresses the claim that France's suffering has absolved its flaws. The speaker explicitly lists France's "errors, vanities, sins" but refuses to rebuke the nation because its "unexampled woes and pangs" (suffering) have "quell'd them all" and made the nation "sacred."

(A) is incorrect because while it describes France's current ruined state (a "wreck" and "mastless hulk"), it focuses on the loss of power and fame rather than the forgiveness of sins through suffering.

(B) is incorrect because it focuses on France as a symbol of liberty and "aspirations toward the far ideal," rather than discussing its flaws or the purifying nature of its suffering.

(C) is incorrect because it predicts a future recovery where the "travail" is over and the star shines again, but it does not make the specific argument that the suffering itself has canceled out France's previous wrongdoings.

Question 7

Correct Answer: B

The passage discusses how researchers hypothesize that if migratory birds arrive out of sync with when their food is most available, they will not be as good at finding food, and their baby birds will not do as well.

(B) supports this because it shows that when birds arrive out of sync with their food (insect biomass), their baby birds (chicks) do not survive as well. This directly matches the idea that nesting outcomes will decline if birds arrive too early or too late.

(A) talks about migration distance changing, which is not about the timing of arrival or the success of nesting.

(C) talks about birds changing their migration routes, which is also not about the timing of their arrival or how well their nests do.

(D) talks about a general decline in bird populations linked to less variety of life, which is too broad and does not specifically address the timing of arrival or nesting success mentioned in the hypothesis.

Question 8

Correct Answer: A

The passage states that researchers concluded that the butterfly's range expansion was primarily driven by the northward expansion of its host plants. To undermine this conclusion, you need a finding that suggests the butterfly is expanding its range even without the host plants being the primary driver. Choice A says the butterfly is establishing in northern areas where the host plants are not common. This means the butterfly's expansion

is happening without the host plants being the main reason, which weakens the researchers' conclusion. Choice B talks about heat tolerance, which might help the butterfly survive but doesn't directly contradict the idea that host plants are the main driver of *range expansion*. Choice C talks about the flight period, which is a change in timing, not necessarily a cause of geographic expansion. Choice D talks about a different butterfly, which is not relevant to the conclusion about *Lasiommata megera*.

Question 9

Correct Answer: B

The passage says that researchers concluded that urban aerosols primarily make clouds grow taller (enhance vertical development). To undermine this, you need a finding that shows this is not the main way urban aerosols affect clouds. (B) says that urban aerosols primarily make clouds last longer and spread out wider (increase cloud lifetime and horizontal extent), and that they don't make them grow taller much (minimal impact on vertical growth). This finding directly contradicts the idea that growing taller is the main effect. (A) supports the researchers' conclusion by confirming the mechanism they proposed. (C) talks about natural aerosols and rural areas, which is not about how urban aerosols primarily affect clouds in the study area. (D) mentions enhanced cloud albedo and cooling, but the original conclusion was specifically about *invigorating convection* and *vertical development*, not about albedo or cooling being the primary effect.

Question 10

Correct Answer: B

- Because lines a and b are parallel vertical lines, the angles a transversal makes with a is the same as with b (corresponding angles).
- From $z = 71^\circ$, the acute angle that line e makes with the vertical is 71° .
- From $y = 114^\circ$, the acute angle that line d makes with the vertical is $180^\circ - 114^\circ = 66^\circ$.

- Therefore the acute angle between d and e is the difference of their tilts from the vertical: $|71^\circ - 66^\circ| = 5^\circ$. The angle w is the acute angle at their intersection, so $w = 5^\circ$.
 - Line c makes an angle v with the vertical with $v < 71^\circ$, and it lies on the opposite side of the vertical from line d. Hence the smaller angle between c and d equals either $(66^\circ + v)$ (if $(66^\circ + v) \leq 90^\circ$) or $(180^\circ - (66^\circ + v))$ (if $(66^\circ + v > 90^\circ)$). In either case, since $(0 < v < 71^\circ)$, this smaller angle is at least 43° and at most 90° .
 - Therefore the angle x formed by c and d is strictly greater than 5° , while $w = 5^\circ$. Hence $x > w$.
- So the statement that must be true is B.

Question 11

Correct Answer: C

(C) is the correct answer as it directly connects the metaphor of the bird to the human subject, Jeany. The lines explicitly state that Jeany ("young Jeany fair"), likened to the "dear bird," will "sweetly pay the tender care" that watched over her youth ("early morning") through her music or voice ("trembling string or vocal air"). This perfectly illustrates the claim about repaying nurturing care.

(A) is incorrect because it describes the initial image of the rose-bud in the landscape but makes no mention of Jeany or the idea of repayment for care received.

(B) is incorrect because while it introduces the linnet and her nest, it focuses on the bird's current state in the morning dew rather than making the comparison to Jeany's future actions or gratitude.

(D) is incorrect because it returns to the description of the rose flowering quickly ("crimson glory spread"), which serves as a parallel image but does not address the specific claim regarding Jeany's repayment of care.

Question 12

Correct Answer: C

(C) is the correct answer as it directly illustrates both elements of the claim. The quotation describes Elizabeth's "archness" (spirited wit) and notes that Darcy is "bewitched" (captivated) by her, while explicitly mentioning his reservation regarding the "inferiority of her connections" (social disparity).

(A) is incorrect because it describes a male character (implied to be Mr. Wickham based on context of "appearance" and "introduction") who possesses a "pleasing address," rather than describing Elizabeth or Darcy's reaction to her.

(B) is incorrect because it refers to Mr. Bennet evading his family's questions about Mr. Bingley. While it depicts a form of wit or evasion, it does not involve Elizabeth or Mr. Darcy's feelings.

(D) is incorrect because, although it highlights Elizabeth's spirited nature in standing up to Lady Catherine ("trifle with so much dignified impertinence"), it does not address Mr. Darcy's attraction to her or his thoughts on their social standing.

Question 13

Correct Answer: C

(C) is the correct answer as it directly illustrates both elements of the claim: the internal suffering caused by Selden's abandonment and the contrast with her external pride. The quote explicitly states that his "desertion" caused bitterness and "wounded sensibilities," and that this hurt existed "far below the surface of her pride."

(A) is incorrect because it depicts a different character, Mr. Rosedale, speaking about his own feelings and Lily's love for luxury, rather than Lily's internal reaction to Selden's absence.

(B) is incorrect because it describes a moment of high trust and nobility, where the character views the man in the "noblest" light, rather than focusing on the specific feelings of bitterness or wounded pride mentioned in the claim.

(D) is incorrect because it only illustrates the first part of the claim—Lily's ability to restore her "self-possession" and maintain a social facade. It fails to illustrate the second, crucial part of the claim regarding her private suffering and sense of abandonment.

Question 14

Correct Answer: B

The passage talks about a study showing that artificial light at night makes great horned owls hunt less near cities. The researchers think the light stops the owls from hunting well in bright spots. We need to find something that proves this idea true.

Let's look at the choices:

(A) says the owls' food is harder to find in bright places. This could be a reason why hunting success goes down, but it doesn't directly show that the light *stops* the owl's *hunting activity* itself.

(B) says owls sit around more and look for food less when it's bright. This directly supports the idea that the light *inhibits* or stops them from actively hunting, which is what the researchers concluded.

(C) talks about a different kind of owl. This doesn't tell us anything about great horned owls.

(D) says there are more great horned owls in some bright places. This goes against the idea that bright light is bad for their hunting.

So, (B) is the best answer because it directly shows the owls are less active in hunting when it's bright, supporting the researchers' conclusion.

Question 15

Correct Answer: A

The passage discusses a study that found decentralized information sharing helps groups make better decisions when things are uncertain. The researchers concluded that letting everyone share information freely makes group decisions more reasonable in unclear situations. To undermine this conclusion, we need a finding that shows decentralized sharing isn't always the key to better decisions in these unclear situations.

(A) says that centralized groups also made good decisions if the leader was good at handling uncertainty. This shows that decentralized sharing isn't the only way to get good results, weakening the idea that it's the main thing that makes groups more rational in unclear situations.

(B) is about how happy people felt, not how good the decisions were.

(C) talks about people not trying as hard in groups, which isn't directly about how the communication structure affects decision quality.

(D) is about situations where the chances are known (risk), not unclear situations (ambiguity) which is what the passage focuses on. The conclusion is specifically about ambiguity.

Question 16

Correct Answer: A

The passage talks about a study where people were more likely to be nice back to someone if they thought the first person was being kind on purpose, not just because they had to or for their own gain. The researchers think that being nice back (reciprocity) mostly depends on *why* someone did something (their intent).

(A) supports this idea because it shows that even if the money earned is the same, people cooperate more if they think the act was done freely and kindly. This means the *intent* (spontaneous and unprompted) is making the

difference, not the amount of money.

(B) is wrong because it talks about transparency and overall decrease in behavior, which is different from how *intent* affects reciprocity.

(C) is wrong because it talks about people's general personality traits (being prosocial in daily life) affecting their behavior, not how the *perceived intent* of others specifically influences reciprocity in the game.

(D) is wrong because it says the *length of the game* is the main thing that predicts behavior, which goes against the idea that *intent* is most important.

Question 17

Correct Answer: A

We first look at the passage, which can be summarized as follow:

Machado: tilling = increased yield of spring barley

Other crops: tilling = opposite effect

To complete the text, we need to find a study that supports the claim that the increase in yield found by Machado and colleagues is not specific to their study crop. In other words, we are looking for a study that shows a similar association between tilling and increased yield for a different crop. Looking at the answer choices, (A) is the only one that describes a similar association for a different crop (maize). Therefore, (A) is the correct answer.

(B) is incorrect because it describes a study that found the opposite effect (decreased yield with tilling), which contradicts the claim that the increase in yield is not specific to Machado's study crop.

(C) is incorrect because it describes a study on rice, which is not mentioned in the passage as having an opposite effect to Machado's study.

(D) is incorrect because it describes a range of yields for different crops, but does not specifically address the effect of tilling on yield.

Question 18

Correct Answer: B

(B) is the correct answer as it directly illustrates both parts of the claim: Amy's awareness of social dynamics and her satisfaction with her companion's appearance. By referring to Laurie as "Apollo" (a god associated with beauty) and noting he looks "debonair," she validates his aesthetic appeal. Furthermore, the fact that being seen with such a "personable man" makes her pity the "plain Misses Davis" shows she derives social satisfaction from his impressiveness relative to others.

(A) is incorrect because this quote is spoken by Meg, not Amy, and it concerns economic cynicism regarding marriage rather than social gratification derived from a companion's appearance.

(C) is incorrect because while it shows Amy's appreciation for aesthetic objects (the nosegay and holder), it focuses on a material gift from Laurie rather than the social status or satisfaction she gains from his personal appearance.

(D) is incorrect because it illustrates Amy's artistic ambition and confidence in the future, not her feelings about social presentation or her companion's appearance in a ballroom setting.

Question 19

Correct Answer: C

The passage talks about how people value things they own more, which is called the endowment effect. Dr. Vance thinks this effect gets much bigger when people feel a strong connection or "shared identity" with a group that owns something together.

(A) is wrong because it talks about items belonging to a random group versus an individual, but Vance's hypothesis is specifically about when people feel a *shared identity* with their group, not just any group.

(B) is wrong because it discusses unconscious processes, which is not what Vance's hypothesis is about. Her idea focuses on shared identity, not whether people are aware of ownership.

(C) is correct because it directly supports Vance's hypothesis. If feeling "camaraderie and shared purpose" (which means shared identity) makes people value group-owned items more, it shows that shared identity amplifies the endowment effect, just as Vance hypothesized.

(D) is wrong because it talks about a diminished effect for *personally* owned items, which is not directly related to Vance's hypothesis about the effect of *group identity* on *group-owned* items.

Question 20

Correct Answer: B

We first look at the passage, which can be summarized as follows:

Condensed Version:

"Global: !' people 65+

Caused by: longevity + medical care

Regional trends "'

Claim: Asia = main driver of global elderly !' (through 2054)

The researchers' conclusion is that **Asia will be the PRIMARY DRIVER** of the global elderly population increase. To support this, we need data showing Asia contributes *most* of the global increase, not just that both are growing.

(A) only gives snapshots for one year (2045) without showing Asia's contribution to the *total increase*.

(C) compares Asia in 2054 to the global total in 2024—different time periods, which doesn't show Asia driving the change.

(D) lists projections but doesn't demonstrate that Asia accounts for most of the global increase.

Looking at the graph to verify **(B)**: Global increase = $1700 - 830 = 870$ million. Asia's increase = $1050 - 500 = 550$ million. This means Asia accounts for $550/870 =$ about 63% of the total global increase, clearly showing Asia as the *primary driver*.

(B) is the correct answer.