

Pretest Answer Key - Pgs 1-17

1. (Part A) C (Part B) B

2. (Part A) D

(Part B) *Responses will vary.*

SI unit, 150 N, vertical force, 200 N, multiply the force used (F) by the distance (d), joule (J), newton, 2 m, $W = F \times d$, $W = 150 \text{ N} \times 2 \text{ m}$, $W = 300 \text{ J}$, $W = F \times d$, $W = 200 \text{ N} \times 2 \text{ m}$, $W = 400 \text{ J}$

3. (Part A) A (Part B) C

4. (Part A) A, B (Part B) B

5. A

6. (Part A) *Responses will vary.*

The passage states that a ramp is an inclined plane, and "ramps help us move things to a higher elevation with less effort." And the passage states that "A wedge is a double inclined plane." "Instead of helping you move things to higher elevations, wedges help you push things apart."

(Part B)

A ramp is an inclined plane.

A wedge is a double inclined plane.

7. (Part A) B (Part B) D

8. *Responses will vary.*

The first passage, "The Mathematics of Work" discusses how math is used to calculate how much force is used to lift or move a heavy object such as a barbell. This passage gives formulas and math equations to use as work calculations. The author describes how math is used by providing a scenario in which a weight lifter lifted two different weight barbells. The author then shows how to calculate how much force was used in lifting the weights.

The second passage, "How Machines Help Make Our Lives Easier" does not use mathematics in explaining force. This passage explains how machines make work easier by changing the size or direction of a force. This passage uses graphics to show examples of some simple machines and demonstrate how a ramp and a lever are used to move and lift heavy objects. This passage uses four specific examples of how inclined planes, a wedge, screws, and levers help people reduce the amount of effort required when lifting or moving heavy objects. The author also describes what these four examples look like in words and by providing graphics.

The third passage, "Pascal's Law", like the other passages, is about applying force on fluids in containers. This passage does not have any graphics, math equations, or formulas to explain Pascal's Law, but the passage does contain a simple experiment using water, a bottle, and a balloon which effectively demonstrates the concept of Pascal's Law. In addition to the experiment, the passage explains that Pascal's Law is the basis of hydraulic machines, which use fluids to transmit force. The passage gives examples of some hydraulic machines, such as bulldozers, forklifts, amusement rides, and cranes.

All three passages had the same theme: force. However, the passages used different examples to explain the science (and math) behind force. The graphics in the first two passages did help in understanding the different kinds of machines used when moving or lifting heavy objects, but the experiment in the third passage was the most effective in understanding the connection between liquids, pressure, and force.

9. (Part A) B (Part B) B

10. (Part A) D (Part B) C

11. (Part A) A (Part B) D

12. (Part A) D (Part B) C

13. (Part A) A (Part B) B

14. *Responses will vary.*

The passage focuses on the nature of the relationship between the two men, and then reflects on what their friendship says about the complexity of human relationships. The author uses the opening conversation between the waiting man and the policeman to provide important backstory about the waiting man's fiercely loyal relationship with his old friend, Jimmy, which he describes as being "his best chum" And though they eventually go their separate ways (geographically and morally), the waiting man tells the officer that he and Jimmy had agreed to meet twenty years later, as "each of us ought to have our destiny worked out and our fortunes made, whatever they were going to be."

The author provides the reader with key traits about Jimmy—ones that fuel the crisis of

conscious currently playing out though not revealed until later: "... he [Jimmy] always was the truest old chap in the world ... He was a kind of plodder, though, good fellow as he was." The author contrasts Jimmy's moral character with the waiting man's assessment of his own, most notably his desire to attain wealth: "I've had to compete with some of the sharpest wits going to get my pile." In the very next sentence, the author succinctly distinguishes the two men: "A man gets in a groove in New York. It takes the West to put a razor-edge on him." Only at the end of the story does the reader learn that the policeman is, in fact, Jimmy, and had recognized that his old friend Bob, the waiting man, is also a wanted man—'Silky' Bob.

The story's conflict, then, is an internal one: the crisis of conscience in the policeman's mind lies at the heart of the story's theme. As the author described him earlier, Jimmy is the "truest old chap in the world. The author leaves the reader to ponder the question. Yes, Jimmy does report the whereabouts of his friend-turned-criminal, but when it comes to the actual arrest, he confesses that, "Somehow I couldn't do it myself." (An exemplary response might also point out that the author chose the third-person objective point of view to hide the policeman's crisis of conscience from the reader until the end of the story.)

15. A 16. B
17. C 18. A

19. *Answers will vary.*

Thoughts: "Was the desire of his soul to be satisfied at last?" "Might he not hope to see a prince now—a prince of flesh and blood, if Heaven were willing?" "Everything gave way in his mind instantly to one desire: that was to get close to the prince, and have a good, devouring look at him." "Oh! he was a prince—a prince, a living prince, a real prince—without the shadow of a question; and the prayer of the pauper-boy's heart was answered at last."

Actions: "Poor little Tom, in his rags, approached, and was moving slowly and timidly past the sentinels with a beating heart and a rising hope, when all at once he caught sight through the golden bars of a spectacle that almost made him shout for joy." "Before he knew what he was about,

he had his face against the gate-bars." "Tom's breath came quick and short with excitement, and his eyes grew big with wonder and delight."

20. (Part A) D (Part B) B
21. (Part A) E (Part B) C
22. (Part A) A (Part B) B
23. B 24. D
25. (Part A) D (Part B) B
26. C 27. D
28. A 29. C
30. D

Chapter 1 Practice Answers

Practice 1: Evidence and Inference - Pg 20

1. B 2. B 3. B
4. B 5. A 6. D

Practice 2: Central Idea and Supporting Details

Pg 24

1. A 2. C 3. B 4. D

Practice 3: Theme - Pg 24

1. C 2. B 3. A 4. C

Practice 4: Summarizing - Pg 30

1. The correct order is: C, E, B, D, A
2. *Responses will vary.*

Nat is a boy who has trouble with his lessons at school and works hard to catch up with the other boys, so his teacher, Mr. Bhaer, lets Nat sit in the back of the classroom to do his work. Nat is upset because the other students could recite "grammar, history, and geography with what he thought was amazing ease and accuracy." Mr. Bhaer tells Nat to not work so hard, and Nat knows things the other students don't.