

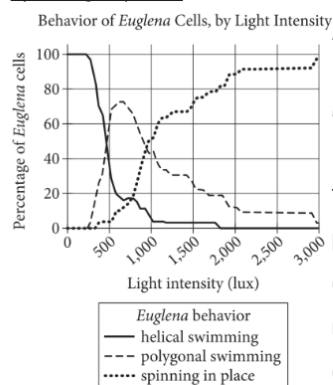
WRITING

Questions 1 – 11:

Polygonal Pond Swimming

The swimming [1] habits of *Euglena*—single-celled organisms commonly found in lakes and ponds—are well documented. Propelled by their whiplike flagellum, the oblong-shaped *Euglena* are known to swim through the water in a helical, or spiral-like, forward [2] motion, recently. Though researchers at Stanford University discovered a new behavior in *Euglena*'s repertoire. The organisms were observed swimming in polygonal patterns, such [3] as triangles pentagons and squares. This behavior, the researchers believe, is vital to the navigation and survival of these photosynthetic organisms.

Bioengineer Alan Tsang was the first to notice changes in *Euglena*'s behavior when the organisms were exposed to varying degrees of [4] light intensity. Light intensity is measured in lux. As Tsang and his team documented in their 2018 study, when they exposed a sample of *Euglena* cells to low intensities of light (under 400 lux), most of the cells displayed helical swimming. When the cells were exposed to between 500 and 1,000 lux, however, the percentage of cells exhibiting polygonal swimming peaked at [5] around 10 percent. Finally, when exposed to 3,000 lux, almost all *Euglena* cells [6] were documented swimming helically and spinning in place.



Adapted from Alan C. H. Tsang, Amy T. Lam, and Ingmar H. Riedel-Kruse, "Polygonal Motion and Adaptable Phototaxis via Flagellar Beat Switching in the Microswimmer *Euglena gracilis*." ©2018 by Alan C. H. Tsang, Amy T. Lam, and Ingmar H. Riedel-Kruse.

[1] As the researchers explain, polygonal swimming is what allows a *Euglena* cell to navigate and thrive in its surroundings. [2] This behavior enables the photosynthetic organism [7] to seek by its perfect habitat—one that's neither too dim nor too bright. [3] In an ideal light environment, such as a comfortably shaded pond, the *Euglena* cell swims forward. [4] As the cell swims, it both spirals and rolls along its long axis, with its light-sensing eyespot rotating along with it, surveying a full 360 degrees above and below the organism. [5] When it encounters a less ideal light environment, such as a [8] sunny spot that's a place of danger in the water, the cell's eyespot sends feedback to the flagellum, and the cell makes a quick turn. [6] The *Euglena* cell then continues forward, turning each time the eyespot rotates back into the bright light. [7] If the light intensity is too extreme, though, the cell's light sensor gets overloaded, causing the cell to spin in place, unable to [9] elude the damaging effects of the intense light. [10]

The research team's findings are both intriguing and significant— [11] especially since *Euglena* are so common. As Tsang points out, knowledge of *Euglena*'s navigation may someday help engineers design microscopic devices that operate with similar feedback mechanisms. In other words, the microorganisms of today may serve as effective models for the microrobots of tomorrow.

1.

- A. NO CHANGE
- B. habits—of *Euglena*, single-celled organisms
- C. habits, of *Euglena*, single-celled organisms,
- D. habits of *Euglena*, single-celled organisms—

2.

- A. NO CHANGE
- B. motion. Recently, though,
- C. motion, recently though,
- D. motion, recently though

3.

- A. NO CHANGE
- B. as, triangles pentagons,
- C. as, triangles pentagons
- D. as triangles, pentagons,

4. Which choice most effectively combines the sentences at the underlined portion?

- A. light-intensity-measuring
- B. light intensity, by which it's measured in
- C. light intensity, which is measured in
- D. light intensity, and that's measuring

5. Which choice most accurately represents the information in the graph?

- A. NO CHANGE
- B. under 40 percent.
- C. just over 70 percent.
- D. exactly 90 percent.

6. Which choice most accurately represents the information in the graph?

- A. NO CHANGE
- B. were observed spinning in place.
- C. alternated between helical and polygonal swimming.
- D. increased the rate of their polygonal swimming.

7.

- A. NO CHANGE
- B. seeking into
- C. to seek out
- D. seeking of

8.

- A. NO CHANGE
- B. dangerously sunny spot
- C. hazardously dangerous spot in the sun
- D. dangerously sunny and bright spot

9.

- A. NO CHANGE
- B. allude the damaging effects
- C. allude the damaging affects
- D. elude the damaging affects

10. The writer wants to add the following sentence to this paragraph.

It follows this polygonal swimming behavior—going straight, turning, going straight again—until the cell eventually finds more suitable light conditions.

The best placement for the sentence is

- A. after sentence 3.
- B. after sentence 4.
- C. after sentence 5.
- D. after sentence 6.

11. Which choice provides the best transition from this sentence to the rest of the paragraph?

- A. NO CHANGE
- B. and not just to biologists.
- C. not to mention entirely unexpected.
- D. even if there are at least 800 different species of Euglena.

walking with a Strandbeest

On a beach in the Netherlands, a strange, many-legged creature—nimble as a crab but big as a school bus—scuttles across the windswept sand. This “Strandbeest” (or “beach animal”) is the brainchild of Dutch artist and engineer Theo Jansen. Though its skeleton is made of plastic and its energy flows from the wing-like sails that crest its back, when the wind blows and sets the Strandbeest in motion, it’s hard to believe that Jansen’s kinetic sculpture is not, at least a little bit, alive.

12 Such uncanny animation did not come easily for the first of Jansen’s Strandbeests. When Jansen began his project in 1990, an early challenge he faced was teaching his creations to walk. Built from plastic PVC pipes and tape, the first Strandbeests could wiggle **13** its legs in the air, but when the creatures were placed upright, the complex, double-jointed limbs seized up and the Strandbeests crumpled to the ground. To solve this problem, Jansen drew on the lessons of evolutionary theory. Running a computer algorithm that simulated natural selection, **14** Jansen found the crucial ratio he had sought. This ratio determined the **15** prizewinning proportions for the legs, allowing the beests to walk—and walk they did.

Each year, Jansen built creatures better adapted to their beach environment than the previous versions. Some grew wider, with more legs, to keep from toppling **16** over, others added sails, allowing them to move autonomously in the wind. Some even developed “nerves,” long plastic tubes that extended like the snouts of anteaters, to sense the water’s edge and tell the creature to retreat. **17** When Jansen first conceived of the project, he envisioned the Strandbeests shoveling sand into barriers that would guard against rising sea levels. At the summer’s end, Jansen dismantled his creations, making way for the next generation.

Even after forty iterations, Jansen has barely wavered in the materials he **18** uses. It’s what Jansen does with such low-tech supplies that **19** will be making these sculptures both technical and artistic marvels. As they lumber their way, like walking trellises, against a flat backdrop of **20** sky. The Strandbeests seem designed to be photographed. However, Jansen claims he was never interested in beauty: “I was interested in survival . . . [but] as with nature—the better the functioning, often, the more beautiful the result.”

[1] Jansen envisions his creatures someday roaming the beaches in “herds,” proliferating and “living their own lives,” even after he’s gone. [2] Jansen has started publishing the “genetic codes” of some of his sculptures online. [3] Since then, Strandbeests have **21** manifested from the workshops and 3-D printers of fascinated builders around the globe. [4] Thus, the species lives on. **22**

12. Which choice most effectively establishes the main topic of the paragraph?

- A. NO CHANGE
- B. Jansen’s Strandbeests were off to a promising start.
- C. Perhaps, above all, the lifelike appearance of the Strandbeests is due to their inherent imperfections.
- D. When discussing the evolution of his Strandbeests, Jansen speaks in terms of “epochs” and “periods,” marking the major developments of his “species.”

13.

- A. NO CHANGE
- B. their
- C. it’s
- D. they’re

14.

- A. NO CHANGE
- B. the crucial ratio Jansen had sought was found.
- C. what Jansen found was the crucial ratio he had sought.
- D. Jansen's crucial ratio, which he had sought, was found.

15.

- A. NO CHANGE
- B. maximum
- C. supreme
- D. optimal

16.

- A. NO CHANGE
- B. over
- C. over;
- D. over:

17. The writer is considering deleting the underlined sentence. Should the sentence be kept or deleted?

- A. Kept, because it provides readers with important background information about the Strandbeests' origins.
- B. Kept, because it explains why the Strandbeests needed to develop "nerves" to sense the water's edge.
- C. Deleted, because it contradicts the sentence that comes after it.
- D. Deleted, because it distracts readers from the main idea of the paragraph.

18. The writer is considering revising the underlined portion to the following.

uses: cloth, nylon ties, plywood, and plenty of plastic tubes.

Should the writer make this revision?

- A. Yes, because it provides specific details that set up the information in the next sentence.
- B. Yes, because it clarifies how Strandbeests have evolved over the years.
- C. No, because it repeats information already mentioned in the passage.
- D. No, because it interrupts the discussion of the Strandbeests' technical and artistic appeal.

19.

- A. NO CHANGE
- B. had made
- C. made
- D. makes

20.

- A. NO CHANGE
- B. sky; the
- C. sky, and the
- D. sky, the

21. Which choice from Passage 1 provides the best evidence for the answer to the previous question?

- A. NO CHANGE
- B. cast forth
- C. emerged
- D. spewed

22. The writer plans to add the following sentence to the paragraph.

While such a thing is still not possible, the beests have begun multiplying in a different way.

To make the paragraph most logical, the sentence should be placed

- A. after sentence 1.
- B. after sentence 2.
- C. after sentence 3.
- D. after sentence 4.

Questions 23-33 are based on the following passage.

Crossing Cultures, Crossing Genres in Independent Publishing

While most books marketed to the general public are sold by large corporate publishing houses, 23 independent publishers play an important role in the literary ecosystem too. Independent publishers are small or medium-sized presses. Independent presses often specialize in publishing works in historically less profitable genres, including international fiction, poetry, and those that defy traditional categorization. Not beholden to a corporate vision or the mandates of shareholders, independent publishers often have the freedom and courage to take on works that larger publishers might not want to take a chance on. As a result, independent presses provide a 24 space—within the publishing industry, for literary voices that might otherwise not reach readers.

Europa Editions, a publisher based in the United States and the United Kingdom, 25 focuses on bringing international novels in translation to English language audiences. While many of the authors are well acclaimed in their home countries, Europa's publications are often the first English translations of the novels to reach anglophone readers. Commenting on Europa's mission, 26 as cofounder Sandro Ferri says, his publishing house was "born with the intention to create bridges between cultures." To that end, Europa has published works from twenty-nine different countries. One of its 27 undertakings that has been among its most successful publishing ventures has been Italian author Elena Ferrante's Neapolitan quartet. Already popular in Italy, Ferrante's novels about the friendship between two young women in postwar Naples 28 resonates with readers across the Atlantic as well. By 2018, Europa's translations of the four-volume series had sold two million copies in the US, and the original novels had been turned into a television show.

While Europa concentrates on international literature, Minnesota-based Graywolf Press has invested in several books that 29 experiment with form and genre—a choice that has proven popular among critics and readers alike. 30 Moreover, one such work is Claudia Rankine's *Citizen: An American Lyric*. Published in 2014 and the winner of several major literary awards, Rankine's book uses a combination of poetry, prose, and photography to reflect on the experiences of African Americans in the twenty-first century. Jeff Shotts, the Graywolf editor who 31 will be working with Rankine on the manuscript for *Citizen*, notes that while publishing such innovative works can be financially risky, 32 the publisher tries "to be a full-support service as much as possible in order to keep our cherished writers writing."

The niches that presses like Europa and Graywolf have carved out for themselves are good news for authors and book lovers alike. 33 Through a variety of initiatives, such as contests and calls for submissions, independent publishers can find authors with unique and valuable perspectives.

23. Which choice most effectively combines the sentences at the underlined portion?

- A. independent publishers—small or medium-sized presses—play an important role in the literary ecosystem too.
- B. playing an important role in the literary ecosystem as well, independent publishers are small or medium-sized presses.
- C. an important role is also played by small or medium-sized presses in the literary ecosystem; these are independent publishers.
- D. in the literary ecosystem, small or medium-sized presses, also known as independent publishers, also play an important role.

24.

- A. NO CHANGE
- B. space within the publishing industry
- C. space, within the publishing industry
- D. space: within the publishing industry

25. Which choice best sets up the sentence that follows in the paragraph?

- A. NO CHANGE
- B. was founded by the same publishers that started Rome's Edizioni E/O publishing house.
- C. features crime novels from a variety of countries in its Europa World Noir series.
- D. has published such best-selling novels as Muriel Barbery's *The Elegance of the Hedgehog*.

26.

- A. NO CHANGE
- B. when cofounder Sandro Ferri says
- C. which cofounder Sandro Ferri says,
- D. cofounder Sandro Ferri says

27.

- A. NO CHANGE
- B. most fruitful and successful book publishing
- C. most successful
- D. projects that has proven to be one of its most fruitful

28.

- A. NO CHANGE
- B. has resonated
- C. have resonated
- D. is resonating

29.

- A. NO CHANGE
- B. experiment, with form and genre,
- C. experiment with: form and genre,
- D. experiment with form and genre;

30.

- A. NO CHANGE
- B. Consequently,
- C. However,
- D. DELETE the underlined portion, adjusting the capitalization as needed.

31.

- A. NO CHANGE
- B. worked
- C. will have worked
- D. is working

32. Which quotation from Jeff Shotts's 2016 interview with Literary Hub best supports a main idea of the paragraph?

- A. NO CHANGE
- B. "Graywolf and our titles exist in the same marketplace as countless, more commercial publishers and their titles."
- C. larger publishers adhere to "a publishing model that doesn't seem aware of its own history."
- D. Citizen and Graywolf's other cross-genre books have created a "blazing level of excitement among readers."

33. The writer wants a conclusion that summarizes the main idea of the passage. Which choice best accomplishes this goal?

- A. NO CHANGE
- B. Across oceans and genres, independent publishers help readers connect to interesting, daring, and vital works of literature.
- C. Nevertheless, readers should take care not to overlook the many important books released every year by large-scale publishers.
- D. Other small presses such as Dorothy, which publishes primarily works by female authors, similarly aim to push the literary marketplace in new directions.

Questions 34-44 are based on the following passage.

Cycles of Change: Making Dockless Bikes Work

With the success of public bike-sharing programs that let users rent bicycles from designated docking stations throughout a city, dozens of private companies have launched dockless bike-sharing 34 programs, therefore riders can pick up and drop off bikes anywhere they choose using GPS trackers and digital locks. Dockless bikes can benefit city residents by taking them where trains and buses cannot, but they can also 35 incur costly repairs that hurt company profits. To avoid chaos, companies and city planners must work together; only by cooperating can they ensure that dockless bikes improve—rather than hinder—residents' quality of life.

At their best, dockless bike-sharing programs integrate seamlessly and unobtrusively into a city's commuter 36 ecosystem, they provide a transit option as reliable as it is versatile. They're ideal for "first mile/last mile" transit gaps, which are the parts of a trip between one's home and the nearest transit stop. Moreover, because a program using dockless bikes is easier to implement 37 than that of a program using docked bikes, companies can introduce a new program rapidly, expanding transit options. For example, just eighteen months after its 2017 Seattle debut, one dockless bike company had served more than a third of the city's population.

The free-floating flexibility of dockless bikes can be a liability, 38 however, if companies launch a program without considering a city's existing transit landscape. A common issue 39 is clutter, when the supply of bicycles exceeds demand, or if there aren't enough places to park the bikes, they can overwhelm a city. This happened in Dallas, where 18,000 bikes were introduced in under six months; the result was a surplus of bicycles strewn across sidewalks and clogging curbs. Though dockless systems can be launched rapidly, it takes careful planning to guarantee their long-term viability.

Cooperation is essential. According to transportation researcher Dana Yanocha, 40 "It can really come down to cities creating relationships with these private companies, and making sure that the private companies are aligning with the goals of the city." One way for cities to minimize chaos is to 41 consider enacting a permit structure. For example, they could consider the one Seattle enacted in 2017. The city capped bike numbers during initial rollout of dockless bike-sharing programs 42 and then, after a trial period—gradually allowed fleets to grow while also introducing new bike parking spots. Likewise, the city of Austin mandated that companies equip dockless bikes with "lock-to" technology, which requires riders to lock the bikes to racks as opposed to 43 discarding them haphazardly. As these examples show, cities and private companies, working together, can 44 use dockless bikes to alleviate crowding issues on popular train and bus routes.

34.

- A. NO CHANGE
- B. programs in which riders can
- C. programs, and riders can also
- D. programs, riders can

35. Which choice establishes one of the passage's central ideas?

- A. NO CHANGE
- B. prove difficult to ride in inclement weather.
- C. become a nuisance without proper regulation.
- D. interfere with the popularity of existing docked systems.

- 36.
- A. NO CHANGE
 - B. ecosystem, this provides
 - C. ecosystem, providing
 - D. ecosystem; providing
- 37.
- A. NO CHANGE
 - B. than for
 - C. than compared to
 - D. than
- 38.
- A. NO CHANGE
 - B. additionally,
 - C. for instance,
 - D. in other words,
- 39.
- A. NO CHANGE
 - B. is clutter:
 - C. is: clutter,
 - D. is clutter
40. Which quotation from an interview with Yanocha best supports the main claim of the passage?
- A. NO CHANGE
 - B. "We've seen dockless bike shar[ing] really play out in a variety of locations across the world."
 - C. "Some companies that initially came out providing dockless bikes are now moving into providing dockless e-scooters."
 - D. "Vandalism and theft have been a really big problem for bike shar[ing]."
41. Which choice most effectively combines the sentences at the underlined portion?
- A. enact a permit structure that considers, for example,
 - B. consider enacting a permit structure such as, for example,
 - C. enact, after consideration, a permit structure similar to
 - D. consider a permit structure like
- 42.
- A. NO CHANGE
 - B. and then, after a trial period,
 - C. and then, after a trial period
 - D. and—then after a trial period
- 43.
- A. NO CHANGE
 - B. discarding them at random and tossing them haphazardly.
 - C. discarding or tossing the dockless bikes at random.
 - D. randomly discarding them in a haphazard manner.
44. The writer wants an effective concluding sentence that restates the main claim of the passage. Which choice best accomplishes this goal?
- A. NO CHANGE
 - B. achieve their vision of helping city dwellers rely less on car travel.
 - C. maintain healthy, mutually profitable business partnerships with one another.
 - D. solve the problems of dockless bikes and offer residents a convenient new transit option.

WRITING

Question	Correct Answer	Your Answer	Difficulty	Subscores/Cross-Test Scores
^	◇	◇	◇	
1	A	✓	■ ■ □	Standard English Conventions
2	B	✓	■ □ □	Standard English Conventions
3	D	✓	■ □ □	Standard English Conventions
4	C	✓	■ □ □	Analysis in Science Words in Context Expression of Ideas
5	C	✓	■ □ □	Analysis in Science Command of Evidence Expression of Ideas
6	B	✓	■ □ □	Analysis in Science Command of Evidence Expression of Ideas
7	C	✓	■ □ □	Standard English Conventions
8	B	✓	■ □ □	Analysis in Science Words in Context Expression of Ideas
9	A	✓	■ ■ ■	Standard English Conventions
10	D	✓	■ ■ ■	Analysis in Science Expression of Ideas
11	B	✓	■ ■ □	Analysis in Science Expression of Ideas
12	A	✓	■ □ □	Expression of Ideas
13	B	✓	■ ■ □	Standard English Conventions
14	A	✓	■ ■ □	Standard English Conventions
15	D	✓	■ □ □	Words in Context Expression of Ideas
16	C	✓	■ ■ □	Standard English Conventions
17	D	✓	■ ■ □	Command of Evidence Expression of Ideas
18	A	✓	■ □ □	Command of Evidence Expression of Ideas
19	D	C	■ ■ □	Standard English Conventions
20	D	✓	■ ■ □	Standard English Conventions
21	C	✓	■ □ □	Words in Context Expression of Ideas
22	A	✓	■ ■ □	Expression of Ideas

23	A	✓	■ ■ □	Words in Context Expression of Ideas
24	B	✓	■ □ □	Standard English Conventions
25	A	✓	■ □ □	Command of Evidence Expression of Ideas
26	D	✓	■ □ □	Standard English Conventions
27	C	✓	■ ■ □	Words in Context Expression of Ideas
28	C	✓	■ ■ ■	Standard English Conventions
29	A	✓	■ ■ □	Standard English Conventions
30	D	✓	■ □ □	Expression of Ideas
31	B	✓	■ ■ □	Standard English Conventions
32	D	✓	■ ■ □	Command of Evidence Expression of Ideas
33	B	✓	■ □ □	Expression of Ideas
34	B	✓	■ □ □	Standard English Conventions
35	C	✓	■ ■ □	Analysis in History/ Social Studies Command of Evidence Expression of Ideas
36	C	✓	■ □ □	Standard English Conventions
37	D	✓	■ □ □	Standard English Conventions
38	A	✓	■ ■ ■	Analysis in History/ Social Studies Expression of Ideas
39	B	✓	■ ■ ■	Standard English Conventions
40	A	✓	■ ■ □	Analysis in History/ Social Studies Command of Evidence Expression of Ideas
41	D	✓	■ ■ □	Analysis in History/ Social Studies Words in Context Expression of Ideas
42	B	✓	■ □ □	Standard English Conventions
43	A	✓	■ ■ □	Analysis in History/ Social Studies Words in Context Expression of Ideas
44	D	✓	■ ■ □	Analysis in History/ Social Studies Expression of Ideas