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ACT Practice Paper 2

English | Maths | Reading | Science

Section-wise answer keys with explanations

About This Paper

This is a Yocket original practice paper that follows the structure of the ACT. It contains 50 questions across four sections. Every passage and question is written by Yocket, so you can attempt it as a timed mock.

Section	Questions	Suggested time	What it tests
1. English	15	11 minutes	Grammar, punctuation, sentence structure, rhetorical skills
2. Maths	15	17 minutes	Algebra, geometry, statistics, probability, trigonometry
3. Reading	10	11 minutes	Main idea, detail, inference, vocabulary in context
4. Science	10	10 minutes	Reading tables, spotting variables, drawing conclusions

Suggested times follow the per-question pace of the full ACT sections, scaled down to this shorter paper.

How to Use It

- **Set a timer:** attempt each section in one sitting and stop when the suggested time ends.
- **Work on paper:** circle your answers, and keep the answer key closed until you finish the section.
- **Review every miss:** the key explains the reasoning, so you learn the method and not only the answer.
- **Treat your score as a diagnostic:** a short paper cannot produce an official ACT scale score, so use it to find your weak sections.

Section 1

English

15 questions | Suggested time: 11 minutes | Choose the best answer for each underlined portion or question. Choose NO CHANGE if the underlined portion is already correct.

Passage I: Farming Up, Not Out

Vertical farms grow crops in stacked trays inside warehouses, under LED lights, instead of across wide fields. A single building [1]produce lettuce, herbs, and strawberries all year, because neither the lights nor the temperature depend on the weather. Each farm recycles [2]it's water, so it uses far less than an open field does.

[3]Therefore, critics point out that the lights use a great deal of electricity. Several farms now power their lights with solar panels, [4]which is a development that has reduced their energy costs. [5]

1.

A. NO CHANGE
B. produces
C. have produced
D. are producing

2.

A. NO CHANGE
B. their
C. its
D. its'

3.

A. NO CHANGE
B. For instance,
C. However,
D. Therefore,

4.

A. NO CHANGE
B. which has
C. and that development has been one that has
D. which is something that has

5. Which choice best concludes the passage by recognising both the benefits and the limits of vertical farming?

A. LED lights come in many colours and sizes.
B. Vertical farming will not replace fields, but it offers cities a reliable way to grow fresh food close to home.
C. Warehouses are often built in the industrial parts of a city.
D. Lettuce is one of the most widely eaten salad vegetables.

Passage II: Night at the Observatory

On Saturday night, Priya **[11]**climbs the narrow stairs to the observatory, where her uncle unlocked the heavy dome. “Keep the torch low,” he whispered, “or you will spoil **[12]**everyones' night vision.” She stepped up to the eyepiece. **[13]**

[14]Looking through the eyepiece, the rings of Saturn appeared in sharp, golden detail. **[15]**

6.

- **A.** NO CHANGE
- **B.** climbed
- **C.** has climbed
- **D.** will climb

7.

- **A.** NO CHANGE
- **B.** everyones's
- **C.** everyones
- **D.** everyone's

8. Which choice best shows Priya's nervous excitement before she looks?

- **A.** Her hands trembled slightly as she leaned in.
- **B.** The eyepiece was made of metal and glass.
- **C.** The telescope was taller than she was.
- **D.** It was almost nine o'clock.

9.

- **A.** NO CHANGE
- **B.** Having looked through the eyepiece, the rings of Saturn came into view
- **C.** Looking through the eyepiece, the rings of Saturn were visible
- **D.** Looking through the eyepiece, Priya saw the rings of Saturn

10. Which choice best concludes the passage?

- **A.** The observatory is open to visitors on Saturday nights.
- **B.** Telescopes were invented more than four hundred years ago.
- **C.** Priya's uncle has worked at the observatory for many years.
- **D.** She stayed at the eyepiece until her uncle reminded her that others were waiting, and even then she stepped away slowly, still seeing the rings.

Passage III: Repair Cafés

Repair cafés are free community events **[21]**where, volunteers fix broken toasters, torn clothes, and wobbly chairs. Visitors bring an item, watch the repair, and **[22]**learning the skill themselves. Many repair cafés run once a month**[23]**. They meet in libraries or community halls.

Organisers say the cafés save money and reduce waste. **[24]**Besides, they build friendships between neighbours. **[25]**

11.

- **A.** NO CHANGE
- **B.** where; volunteers
- **C.** where. Volunteers
- **D.** where volunteers

12.

A. NO CHANGE
B. to be learning
C. learned
D. learn

13.

A. NO CHANGE
B. , they meet
C. ; meeting
D. : they meets

14.

A. NO CHANGE
B. Instead,
C. Nevertheless,
D. Otherwise,

15. The writer wants to end with a sentence that states the main benefit of repair cafés. Which choice does this best?

A. Some people prefer to buy new products instead.
B. Amsterdam is known for its canals and bicycles.
C. Toasters, clothes, and chairs are common household items.
D. Every repaired object means less waste, and every visitor leaves knowing how to fix something themselves.

Answer Key: Section 1, English

Mark your paper, then count your correct answers. Read the explanation for every question you missed or guessed.

Q	Answer	Why it is correct
1	**B**	The subject *building* is singular, so the verb must be *produces*.
2	**C**	*Its* is the singular possessive. *It's* means *it is*, and *its'* is never correct.
3	**C**	The criticism contrasts with the benefits described earlier, so *However* is the logical transition.
4	**B**	*Which has* says the same thing in fewer words. The other choices add empty phrasing.
5	**B**	Only this choice weighs the benefits against the limits. The others add unrelated facts.
6	**B**	The rest of the paragraph is in the past tense (*unlocked*, *whispered*, *stepped*), so *climbed* fits.
7	**D**	*Everyone* is singular, so the possessive is *everyone's*.
8	**A**	It describes a physical sign of nerves and excitement. The others give neutral details.
9	**D**	The opening phrase must describe a person who looks. In the other choices, the rings seem to be looking, which is a dangling modifier.
10	**D**	It closes the scene on Priya's experience. The others shift to general facts.
11	**D**	No punctuation is needed between *where* and its clause.
12	**D**	The verbs in the list must match: *bring, watch, and learn*.
13	**A**	Two complete sentences are correctly separated by a full stop. A comma alone creates a comma splice.
14	**A**	*Besides* adds a further benefit. The other transitions signal contrast or condition.
15	**D**	It names the benefits the passage describes. The others are off topic or undercut the point.

Your score: _____ / 15

13 to 15 correct: strong. **9 to 12:** review the missed topics. **Below 9:** revisit the basics before your next paper.

Section 2

Maths

15 questions | Suggested time: 17 minutes | Solve each problem and choose the best answer. A calculator is allowed. Figures are not necessarily drawn to scale.

1. A price rises from \$40 to \$52. What is the percent increase?

A. 12%
B. 23%
C. 30%
D. 130%

2. What is the value of x if $5x + 3 = 2x + 21$?

A. 4
B. 6
C. 8
D. 10

3. Two numbers are in the ratio 3 : 5 and their sum is 64. What is the larger number?

A. 24
B. 32
C. 40
D. 48

4. What is the distance between the points (1, 2) and (7, 10)?

A. 6
B. 8
C. 10
D. 14

5. What is the median of the data set 12, 7, 15, 9, 20, 7, 16?

A. 7
B. 9
C. 12
D. 12.3

6. A trapezium has parallel sides of 8 cm and 14 cm and a height of 5 cm. What is its area?

A. 40 cm^2
B. 55 cm^2
C. 70 cm^2
D. 110 cm^2

7. If $2x + y = 11$ and $x - y = 1$, what is the value of $x + 2y$?

A. 7
B. 10
C. 11
D. 12

8. What is the smallest integer x that satisfies $4x - 9 > 15$?

A. 5
B. 6
C. 7
D. 8

9. A cylinder has a radius of 3 cm and a height of 10 cm. What is its volume?

A. 30π cm^3
B. 60π cm^3
C. 90π cm^3
D. 180π cm^3

10. Two fair six-sided dice are rolled. What is the probability that their sum is 8?

A. 1/9
B. 5/36
C. 1/6
D. 5/12

11. A culture of 50 bacteria doubles every 3 hours. How many bacteria are there after 12 hours?

A. 200
B. 400
C. 800
D. 1,600

12. What is the larger solution of $x^2 + 2x - 15 = 0$?

A. -5
B. -3
C. 3
D. 5

13. A triangle with sides 6, 8, and 10 is similar to a larger triangle whose shortest side is 9. What is the longest side of the larger triangle?

A. 12
B. 13
C. 15
D. 18

14. The first term of an arithmetic sequence is 5 and the common difference is 4. What is the 20th term?

A. 76
B. 81
C. 85
D. 100

15. A right triangle has legs of length 7 and 24. What is the sine of the angle opposite the shorter leg?

A. 7/25
B. 7/24
C. 24/25
D. 25/7

Answer Key: Section 2, Maths

Mark your paper, then count your correct answers. Read the explanation for every question you missed or guessed.

Q	Answer	Why it is correct
1	**C**	The increase is \$12. 12 ÷ 40 = 0.30, which is 30%. Choice B divides by the new price.
2	**B**	Subtract 2x and 3 from both sides: 3x = 18, so x = 6.
3	**C**	The ratio has 8 parts and each part is 64 ÷ 8 = 8. The larger number is 5 × 8 = 40.
4	**C**	Distance = $\sqrt{(6^2 + 8^2)} = \sqrt{100} = 10$.
5	**C**	In order, the set is 7, 7, 9, 12, 15, 16, 20. The middle value is 12. The mean is about 12.3 and the mode is 7.
6	**B**	Area = (8 + 14) ÷ 2 × 5 = 55. Choice D forgets the factor of one half.
7	**B**	Add the equations: 3x = 12, so x = 4 and y = 3. Then x + 2y = 4 + 6 = 10.
8	**C**	4x > 24, so x > 6. The smallest integer greater than 6 is 7.
9	**C**	Volume = $\pi r^2 h = \pi \times 9 \times 10 = 90\pi$. Choice C is the curved surface area.
10	**B**	Five of the 36 equally likely outcomes sum to 8: (2,6), (3,5), (4,4), (5,3), (6,2).
11	**C**	12 hours is 4 doubling periods, so the count is $50 \times 2^4 = 800$.
12	**C**	Factorise: (x + 5)(x − 3) = 0. The solutions are −5 and 3, so the larger is 3.
13	**C**	The scale factor is 9 ÷ 6 = 1.5, so the longest side is 10 × 1.5 = 15.
14	**B**	The 20th term is 5 + 19 × 4 = 81. Choice B adds 20 differences instead of 19.
15	**A**	The hypotenuse is √(49 + 576) = 25. Sine is opposite over hypotenuse, so 7/25.

Your score: _____ / 15

13 to 15 correct: strong. **9 to 12:** review the missed topics. **Below 9:** revisit the basics before your next paper.

Section 3

Reading

10 questions | Suggested time: 11 minutes | Read each passage and choose the best answer to each question based on what is stated or implied.

Passage I: Mending With Gold (Humanities)

When a ceramic bowl breaks in Japan, its owner may choose not to hide the damage. In kintsugi, a craft that dates back several centuries, the repairer joins the pieces with lacquer and dusts the seams with powdered gold, so that each crack becomes a bright, branching line.

The practice is often linked to a wider outlook sometimes described as wabi-sabi, which finds beauty in things that are imperfect, worn, or impermanent. A kintsugi bowl does not pretend to be new. Its history is visible: the fall, the break, and the patient work that followed.

Not everyone agrees on how old the tradition is, or on how closely it mirrors Japanese philosophy. Some historians argue that the craft began simply as a thrifty way to save valuable tea bowls, and that its artistic meaning was added later. Contemporary artists, however, have embraced the idea, and kintsugi now appears in therapy workshops and design studios far beyond Japan. For many of them, the repaired object suggests that damage need not end an object's story. It can become the most interesting part of it.

1. Which choice best summarises the passage?

- **A.** Kintsugi is a cheap method of hiding cracks in bowls.
- **B.** Kintsugi repairs broken pottery with gold, and its meaning is debated but widely admired.
- **C.** Japanese ceramics become more valuable the more they break.
- **D.** Kintsugi is a modern art form invented by contemporary designers.

2. According to the passage, in kintsugi the repairer:

- **A.** dusts the seams with powdered gold.
- **B.** paints the bowl in a single colour.
- **C.** grinds the pieces into powder.
- **D.** replaces broken pieces with new clay.

3. The statement that a kintsugi bowl “does not pretend to be new” suggests that:

- **A.** kintsugi bowls are made from old clay.
- **B.** owners dislike newly made bowls.
- **C.** the repair is difficult to notice.
- **D.** the repair is meant to show the object's history.

4. Which claim do some historians make in the third paragraph?

- **A.** Kintsugi was invented by contemporary artists.
- **B.** Gold was never used in early repairs.
- **C.** Kintsugi began as a form of therapy.
- **D.** The craft may have begun as a practical way to save valuable bowls.

5. The final sentence mainly serves to:

- **A.** report a disagreement among historians.
- **B.** criticise the use of gold in repairs.
- **C.** warn that damaged objects lose their value.
- **D.** present a hopeful view of damage as part of an object's story.

Passage II: The Eight-Armed Thinker (Natural Science)

An octopus has three hearts, blue blood, and no bones, yet its most remarkable feature may be its nervous system. Roughly two-thirds of an octopus's neurons sit not in its brain but in its arms. Each arm can taste, touch, and make simple movement decisions with little instruction from the centre.

Researchers have tested the animal's problem-solving in laboratories. Octopuses learn to unscrew jars to reach food, and some have escaped from sealed tanks by squeezing through gaps barely larger than their beaks. Such feats puzzle scientists because octopuses live only a few years, and mothers often do not survive to meet their young. Without parents to teach them, each animal must work out the world alone.

That solitary life may explain part of the puzzle. Biologists suspect that intelligence evolved in octopuses for a different reason than it did in primates, whose brains developed in social groups. For an octopus, hunting flexible prey and escaping predators in a complex reef may have demanded sharper thinking.

6. According to the passage, about two-thirds of an octopus's neurons are located in its:

- **A.** beak.
- **B.** hearts.
- **C.** arms.
- **D.** brain.

7. Which choice best states the main idea of the passage?

- **A.** Octopuses are the most intelligent animals on Earth.
- **B.** Octopuses cannot survive outside laboratories.
- **C.** Octopuses learn mainly by copying their parents.
- **D.** Octopuses are unusually intelligent, and scientists link this to their nervous system and solitary lives.

8. Why do scientists find octopus problem-solving puzzling?

- **A.** Octopuses have too few neurons.
- **B.** Octopuses cannot see well in laboratories.
- **C.** Octopuses live short lives and do not learn from parents.
- **D.** Octopuses live in large social groups.

9. According to the passage, biologists suspect octopus intelligence evolved because:

- **A.** hunting flexible prey and escaping predators in a complex reef demanded flexible thinking.
- **B.** octopuses learned from their parents.
- **C.** octopuses lived in social groups.
- **D.** octopuses have three hearts.

10. As used in the third paragraph, “solitary” most nearly means:

- **A.** short.
- **B.** lived alone.
- **C.** dangerous.
- **D.** colourful.

Answer Key: Section 3, Reading

Mark your paper, then count your correct answers. Read the explanation for every question you missed or guessed.

Q	Answer	Why it is correct
1	**B**	The passage describes the craft, links it to wabi-sabi, then notes the debate and the modern interest.
2	**A**	The first paragraph states that the seams are dusted with powdered gold.
3	**D**	The next sentence says the bowl's history is visible, so the repair is shown, not hidden.
4	**D**	The passage says some historians see a thrifty origin, with the artistic meaning added later.
5	**D**	It says damage can become the most interesting part of an object's story, which is a hopeful view.
6	**C**	The first paragraph says most neurons sit in the arms rather than the brain.
7	**D**	The passage describes the nervous system, the problem-solving, and the possible evolutionary reason.
8	**C**	The second paragraph says short lives and absent parents make the intelligence surprising.
9	**A**	The final paragraph links octopus intelligence to hunting and escaping in a complex reef.
10	**B**	The passage contrasts octopuses with primates, whose brains developed in social groups.

Your score: _____ / 10

9 to 10 correct: strong. **6 to 8:** review the missed topics. **Below 6:** revisit the basics before your next paper.

Section 4

Science

10 questions | Suggested time: 10 minutes | Each passage is followed by questions. Refer to the passage and tables as needed. A calculator is allowed.

Passage I: Pendulum Swings

Students studied a pendulum made from a small metal bob on a string. They released the bob from a 20° angle and measured the time taken for 10 complete swings.

Experiment 1: The students changed the length of the string and used a 50 g bob each time. The results appear in Table 1.

Experiment 2: The students used a 100 cm string and changed the mass of the bob. The results appear in Table 2.

Table 1

String length (cm)	Time for 10 swings (s)
25	10.0
50	14.2
100	20.1
150	24.6

Table 2

Bob mass (g)	Time for 10 swings (s)
20	20.1
50	20.0
100	20.1
200	20.2

1. In Experiment 1, as the string length increased from 25 cm to 150 cm, the time for 10 swings:

- **A.** increased.
- **B.** stayed the same.
- **C.** decreased.
- **D.** decreased and then increased.

2. Which variable was kept the same in Experiment 1?

- **A.** The mass of the bob
- **B.** The time for 10 swings
- **C.** The release of a different bob each trial
- **D.** The length of the string

3. Which conclusion is best supported by Table 2?

- **A.** A heavier bob swings much faster.
- **B.** The mass of the bob has little effect on the time for 10 swings.
- **C.** A heavier bob swings much more slowly.
- **D.** The mass of the bob doubles the swing time.

4. Based on Table 1, the time for 10 swings with a 75 cm string would most likely be closest to:

- **A.** about 12 s
- **B.** about 25 s
- **C.** about 17 s
- **D.** about 22 s

5. A student wants the time for 10 swings to be double the time with the 25 cm string. Based on Table 1, which string length is closest to what she needs?

A. 100 cm
B. 200 cm
C. 150 cm
D. 50 cm

Passage II: Yeast and Sugar

Students measured the volume of carbon dioxide gas produced by 5 g of yeast mixed into 100 mL of sugar solution. They collected the gas for 10 minutes in each trial.

Experiment 1: The students used 10 g of sugar and changed the temperature of the solution. The results appear in Table 3.

Experiment 2: The students kept the solution at 40 °C and changed the mass of sugar. The results appear in Table 4.

Table 3

Temperature (°C)	Gas volume (mL)
10	4
25	18
40	36
55	14
70	1

Table 4

Sugar (g)	Gas volume (mL)
0	2
5	22
10	36
20	37

6. According to Experiment 1, which temperature produced the most gas?

A. 70 °C
B. 40 °C
C. 25 °C
D. 10 °C

7. In Experiment 1, as the temperature rose from 40 °C to 70 °C, the gas volume:

A. decreased.
B. increased.
C. increased and then decreased.
D. stayed the same.

8. In Experiment 2, the very low gas volume with 0 g of sugar most likely occurred because:

A. the yeast had almost no food to ferment.
B. the temperature was too high.
C. there was too much sugar.
D. the yeast had too much food.

9. In Experiment 2, how much more gas was produced with 20 g of sugar than with 10 g?

A. 1 mL
B. 37 mL
C. 26 mL
D. 10 mL

10. Based on both experiments, which combination would most likely produce the most gas?

A. 70 °C with 10 g of sugar
B. 40 °C with 10 g of sugar
C. 55 °C with 0 g of sugar
D. 10 °C with 20 g of sugar

Answer Key: Section 4, Science

Mark your paper, then count your correct answers. Read the explanation for every question you missed or guessed.

Q	Answer	Why it is correct
1	**A**	Table 1 shows 10.0 s, 14.2 s, 20.1 s and 24.6 s, which keeps rising.
2	**A**	Every trial used a 50 g bob. Length was the variable being changed and time was the result.
3	**B**	The times stay between 20.0 s and 20.2 s as the mass rises from 20 g to 200 g.
4	**C**	75 cm lies between 50 cm (14.2 s) and 100 cm (20.1 s), so the time falls between those values. 17 s is the closest.
5	**A**	Double 10.0 s is 20.0 s, which matches the 100 cm trial at 20.1 s.
6	**B**	Table 3 shows 36 mL at 40 °C, the highest value.
7	**A**	The volume falls from 36 mL to 14 mL to 1 mL.
8	**A**	Without sugar, the yeast has little to ferment, so only a small volume of gas forms.
9	**A**	37 mL minus 36 mL is 1 mL.
10	**B**	Table 3 shows 40 °C works best, and Table 4 shows 10 g gives a large volume. The other combinations include a poor temperature or no sugar.

Your score: _____ / 10

9 to 10 correct: strong. **6 to 8:** review the missed topics. **Below 6:** revisit the basics before your next paper.

Your Next Steps

Add up your four section scores and note which section cost you the most marks. Spend your next study week on that section, then attempt a fresh paper under timed conditions.

Section	Your score	Out of
English	_____	15
Maths	_____	15
Reading	_____	10
Science	_____	10
Total	_____	**50**

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