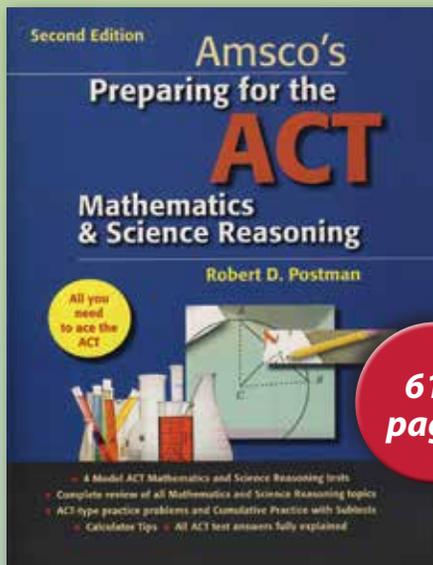


# Students will get their highest possible score with AMSCO's ACT test prep materials!



## AMSCO's Preparing for the ACT: Mathematics & Science Reasoning

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- all ACT test answers are fully explained
- advice on college admission

	AMSCO Reference #	Order #	Price
Student Edition	R649W	RDV13454	\$ 18.00
Student Edition (1-year online access)	—	RDV13454D	\$ 18.00

Students achieve proficiency through repeated practice.

### Practice

Use these formulas to help you complete the practice exercises that follow.

#### Geometric Formulas

Triangle	Area = $\frac{1}{2}bh$	Circle	Area = $\pi r^2$
Square	Area = $s^2$		Circumference = $2\pi r$ or $\pi d$
Rectangle	Area = $lw$	Cube	Volume = $s^3$
Parallelogram	Area = $bh$	Rectangular Prism	Volume = $lwh$
Trapezoid	Area = $\frac{1}{2}h(b_1 + b_2)$	Sphere	Volume = $\frac{4}{3}\pi r^3$

For exercises 1–12, all measurements are in centimeters. Use 3.14 for  $\pi$ .

Find the area of each figure.

- Triangle:  $b = 3, h = 8$
- Square:  $s = 0.7$
- Rectangle:  $l = 1.5, w = 1.2$
- Parallelogram:  $b = 2.7, h = 1.3$
- Trapezoid:  $b_1 = 4, b_2 = 0.5, h = 1.3$
- Triangle:  $b = \frac{1}{2}, h = \frac{1}{4}$

Find the circumference and the area of each circle.

- Circle:  $r = 2$
- Circle:  $d = 6$
- Circle:  $d = 1.8$

Find the volume of each solid.

- Cube:  $s = 0.9$
- Rectangular prism:  $l = 4, w = 6, h = 1.5$
- Sphere:  $r = 3$

### ACT-TYPE PROBLEMS

1. In the figure below,  $\triangle ABC$  is similar to  $\triangle DEF$ . What is the length of  $DF$ ?

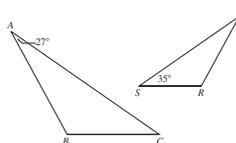


- 1
- 2
- 3
- 4
- 5

2. If  $\triangle QRS$  is similar to  $\triangle XYZ$ , which choice gives corresponding sides?

- $\overline{QR}$  and  $\overline{RQ}$
- $\overline{RS}$  and  $\overline{YZ}$
- $\overline{QS}$  and  $\overline{XY}$
- $\overline{SR}$  and  $\overline{SQ}$
- $\overline{RQ}$  and  $\overline{XZ}$

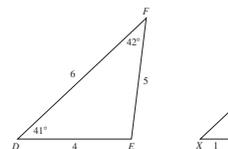
3. In the figure below,  $\triangle ABC$  is similar to  $\triangle QRS$ . What is the sum of the measures of  $\angle B$  and  $\angle Q$ ?



- $54^\circ$
- $62^\circ$
- $145^\circ$
- $153^\circ$
- $180^\circ$

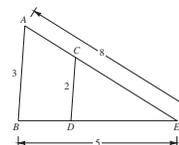
(Answers on page 385)

4. In the figure below,  $\triangle DEF$  is similar to  $\triangle XYZ$ . Which of the following statements is FALSE?

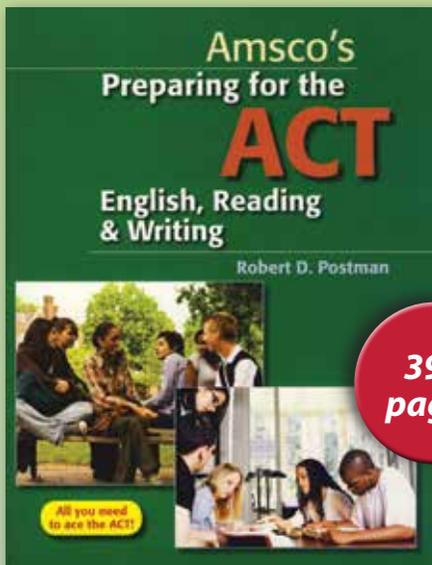


- $m\angle Z = 42^\circ$
- $XZ = 1.5$
- $m\angle X = 41^\circ$
- $YZ = 1.2$
- $m\angle Y = 97^\circ$

5. In the figure below,  $\triangle ABE$  is similar to  $\triangle CDE$ . What is the sum of  $AC$  and  $BD$ ?



- $3\frac{1}{2}$
- $4\frac{1}{3}$
- $5\frac{1}{2}$
- $7\frac{1}{2}$
- $8\frac{1}{2}$



# Amsco's Preparing for the ACT: English, Reading & Writing

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Includes suggestions and tips for understanding the structure and organization of the exam.

	AMSCO Reference #	Order #	Price
Student Edition	R321W	RDV13446	\$ 16.35
Student Edition (1-year online access)	—	RDV13446D	\$ 16.35

Offers extensive practice and review with instruction.

## Practice

Correct the run-on sentences and comma splices. If a sentence is correct, mark it C.

- I like to use my computer for research when I have to write a paper.
- Referees in professional football use instant replays for close calls they also use them after the two-minute warning.
- When I make cupcakes, I usually use a box of cake mix.
- The officer turned on his siren, the car pulled over to the side of the road.
- Running through the rain, the player headed toward the clubhouse.
- I couldn't find my house keys I knew our neighbors had an extra set.
- It will be a long time before I order takeout from that terrible place again.
- My clothes are drenched, water is squishing out of my shoes.
- I sent an "I'm sorry" card to my girlfriend, although I wasn't sure if she would accept my apology.
- The doors closed the train started moving.
- We all went off campus for lunch, we went to the deli.
- The sun had set the park would be closing soon.
- After they adopted a puppy, the family spent many hours training it.
- I like pizza with pepperoni and sausage Rob hates mushrooms on his pizza.
- In the fall I'll go to college, but this summer I'm working at a movie theater.

(Answers on page 51)

## Model ACT Questions

These Model ACT Questions show how this topic might be tested on the real ACT. The answers and explanations immediately follow the questions. Try the questions and then review the answers and explanations.

The circus ringmaster made a carefully-timed entrance to the center ring. Immediately after that, the next act—a trapeze artist—entered the ring.

- A. NO CHANGE

B. —carefully—timed

C. carefully timed

D. —carefully timed—
- F. NO CHANGE

G. the next act entered a trapeze artist

H. the next act—a trapeze artist entered

J. the next act-a trapeze artist-

1. Do not use a hyphen to join adverbs ending in *-ly* to other words. The information about the timing is essential to understanding the sentence and should not be set off by dashes. The word *carefully* should also not be set off from the rest of the sentence.

C is the correct choice.

Model problems align with the types of questions on the ACT. Answers to all model problems are fully explained.

## Organization

Organization items are also unique to the ACT. On the ACT, **organization** items are of two main types.

- Reorder sentences in a paragraph or paragraphs in a passage. This is the most common type of reordering question.
- Place a new sentence in a paragraph or in a passage.

## Paragraph Organization

The topic sentence should be the first sentence in a paragraph. The **topic sentence** conveys the main idea of the paragraph. The other sentences in a paragraph should contain details or examples that support the main idea.

The sentences should build on one another in some logical way. They are usually arranged according to one of the following organizational schemes.

**Chronological.** The sentences appear in time order, usually from earliest to latest. Sentences in a passage about the Civil War would usually be arranged chronologically, from earlier battles to later battles.

**Importance.** The sentences present ideas from the most important to the least important.

Sentences in a passage about disease prevention would usually be arranged in order of importance, from the most important practice to the least important practice.

**Spatial.** Elements in sentences that are arranged spatially are usually arranged from the closest to the farthest.

The sentences in a paragraph about planets in the solar system would usually be arranged spatially, according to the planet's distance from the sun.

**Classification.** The sentences are arranged according to the classification of things or ideas.

The sentences in a paragraph about healthy eating might be arranged according to the different food groups. The sentences in a paragraph about scientists might be arranged according to whether they are chemists, biologists, and so on.

**Compare and contrast.** Sentences are arranged to compare or contrast things or ideas.

Sentences in a paragraph about oil drilling might begin with arguments for drilling and then arguments against the idea. A paragraph about the Founding Fathers might alternate sentences about each figure to compare and contrast their views about particular topics.

...the paragraph or provide a tran-  
...raph.  
...al the paragraph's organization.  
...ys maintain that organization.  
...nce. This sentence that describes