Sample Test Packet

Operators Program

As part of the Selection Process you will be required to test and receive a passing score on the following:

- Mechanical Concepts
- Math
- Locating Information
- Observation Readiness
- Form Perception
- Work Attitude
- Eye/Hand/Foot Coordination
- Finger Dexterity

This packet, which includes sample test questions from some of the above topics, has been provided for your review.

Additional sample test questions for Math, Locating Information and Observation Readiness are available at: www.act.org/workkeys/assess/sample.html

General Instructions

You are about to take a test of mechanical understanding. The test is made up of three short tests: Mechanical Interrelationships, Mechanical Tools and Devices, and Spatial Relations. Each test has its special instructions, which you should read carefully. There is no time limit on this test, but it is typical to spend ten to fifteen minutes on each section.

This is a carbon-insert test booklet, so no separate answer sheet is provided. Mark all your answers in the test booklet. For each item, you are given from two to five alternatives, labeled A, B, C, D, and E. You are to indicate your answer by marking an X in the appropriate answer box for each item: [X]. If you wish to change your answer, draw a circle around your first answer ([X]) and then mark your new choice. Do NOT erase any answer you have marked.

Your score on this test is based on correct answers only. You are not penalized for wrong answers; so if you are not sure of an answer, make the *best* choice you can. Try not to leave any items blank.

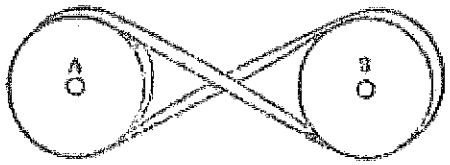
Are there any questions?

Mechanical Interrelationships

Directions

This is a test designed to see how well you can understand and interrelate mechanical concepts. This section consists of pictures that depict mechanical movements and model interrelationships. You must answer the items on the basis of your understanding of the concepts being shown.

S1. Look at the sample item below:



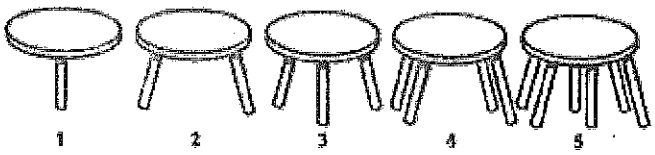
S1. The belt connecting the two identical pulleys in this illustration has been crossed. This will result in

A. an increase in the speed of pulley A ..... [A]
B. an increase in the speed of pulley B ..... [B]
C. a turn of one pulley in the opposite direction ..... [X]
D. no change in pulley speed or direction ..... [D]

The correct answer is alternative C. An X has been placed in the box marked C.

Now try these sample items. In each problem, place an X in the box corresponding to the correct answer.

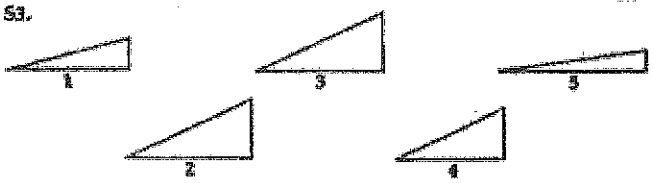
S2.



S2. Which one of these stools is most likely to be steady on an uneven surface?

A. A one-legged stool ..... [A]
B. A two-legged stool ..... [B]
C. A three-legged stool ..... [C]
D. A four-legged stool ..... [D]
E. A six-legged stool ..... [E]

S3.



S3. Several workers roll a 500-pound barrel up each of the five ramps shown. Which ramp requires the least amount of work?

A. Ramp 1 ..... [A]
B. Ramp 2 ..... [B]
C. Ramp 3 ..... [C]
D. Ramp 4 ..... [D]
E. Ramp 5 ..... [E]

You should have marked the box labeled C for item S2 and the box labeled E for item S3. Do you understand how to mark the sample items? If not, do the samples again.

Are there any questions?

When the examiner gives the signal, you may begin. When you have finished this section, wait for further instructions. DO NOT GO ON TO THE NEXT SECTION.

MATH

Example A

You need about 1½ hours to set up a computer workstation. At this rate, how many hours will it take you to set up 7 of these workstations?

Solution:
Step 1: Recognize the rate as 1 station per 1½ hours.
Step 2: Convert 1½ to 1.5
Step 3: $7 \times 1.5 = 10.5$ hours

This example is at Applied Mathematics Level 4 because of the following:

Level 4 Characteristics	Example A
There are two operations:	The employee must first convert the fraction and then multiply.
Employees must convert the rate to a decimal:	1½ becomes 1.5

Example B

Over the last 5 days, you made the following number of sales calls: 8, 7, 9, 5, and 7. On the average, how many calls did you make each day?

Solution:
Step 1: Total: $8 + 7 + 9 + 5 + 7 = 36$
Step 2: Divide: $36 \div 5 = 7.2$ calls

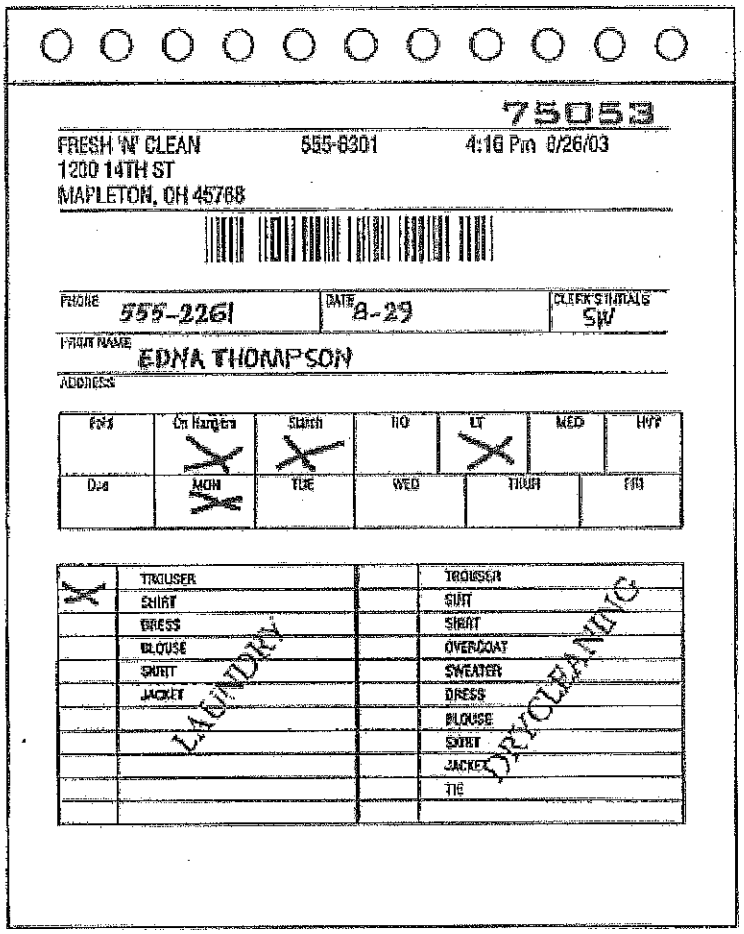
This example is at Applied Mathematics Level 4 because of the following:

Level 4 Characteristics	Example B
There are two operations:	Employees must add up the number of calls and then divide.
Employees must divide using positive numbers:	$36 \div 5 = 7.2$ calls
Employees must figure out averages:	The sum of the calls must be divided by the number of days to find the average number of calls per day.

LOCATING INFORMATION

Level 4 Example A

An employee must sort clothes in a dry cleaning establishment according to the customer's instructions. According to the form shown, how should this customer's shirt be treated?



75053

FRESH 'N' CLEAN 555-6301 4:16 Pm 8/26/03
1200 14TH ST
MAPLETON, OH 45768

PHONE 555-2261 | DATE 8-29 | CLERK'S INITIALS SW

FIRST NAME EDNA THOMPSON

ADDRESS

Pants	On Hangers	Starch	NO	LT	MED	HVY
	X	X		X		

Due	MON	TUE	WED	THUR	FRI
	X				

	LAUNDRY		DRYCLEANING
X	TROUSER		TROUSER
	SHIRT		SUIT
	DRESS		SHIRT
	BLOUSE		OVERCOAT
	SKIRT		SWEATER
	JACKET		DRESS
			BLOUSE
			SKIRT
			JACKET
			TIE

Answer: Launder it with light starch and place it on a hanger.

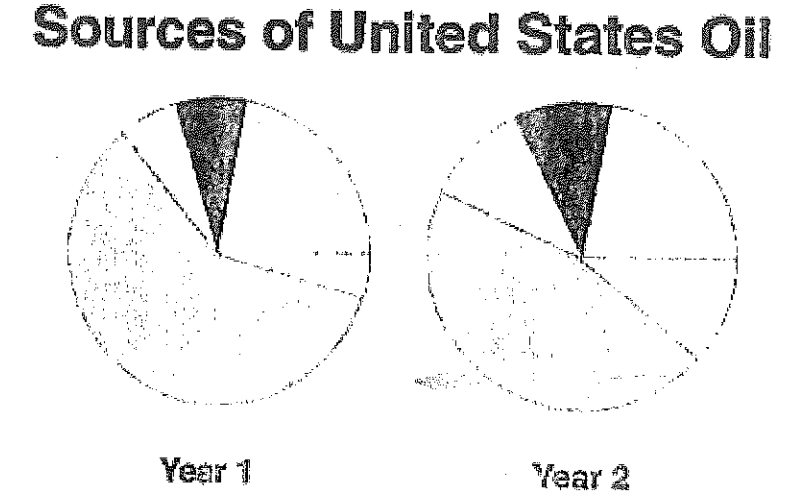
This example is at Locating Information Level 4 because of the following:

Level 4 Characteristics	Example A
The problem contains a straightforward graphic:	The basic form contains details about a customer's laundry.
Employees must summarize information:	The type of cleaning, starch treatment, and hanger need must be summarized.

LOCATING INFORMATION

Level 4 Example B

An administrative assistant for a researcher at the Department of Energy is preparing a report on the changes in oil sources for the United States. Based on the pie charts shown, which source had the greatest increase between Year 1 and Year 2?



Answer: Other sources had the greatest increase.

This example is at Locating Information Level 4 because of the following:

Level 4 Characteristics	Example B
The problem contains straightforward graphics:	The pie graphs are straightforward and have a legend to explain the different shading.
Employees notice relationships between the graphics:	The graphs present data from two separate years in a similar way.
Employees compare information:	The sources that increased from Year 1 to Year 2 must be found and then compared to find the source with the greatest increase.

OBSERVATION

Sample Item

Scenario:

A narrator explains that quality control is an important part of Marcia's job as an operator at the A-1 Plastics Plant. The plant produces molded buckets for use by a variety of businesses and industries.

Marcia picks up a bucket that has just dropped out of the mold and begins to explain what she looks at on each bucket. The camera zooms in and focuses on the parts of the bucket as Marcia goes through the inspection process.

Marcia first inspects the bucket's upper edge. She runs her hand around the top of the bucket to be sure the rim is there, and that it is of consistent size. She looks at the ears on the handle holes to make sure that they are complete.

Next Marcia checks the sprue, the small bump in the center bottom of the bucket, by holding the bucket up to the light. The sprue should be firm (not droopy), and thick enough that no light passes through it. Marcia is careful not to touch the sprue because it might still be hot enough to burn her hand.

Marcia checks the surfaces of the bucket, looking for bubbles and dark spots. Then she compares the bucket against a color sample to be sure it matches.

Because the bucket has passed inspection, Marcia inserts the handle while the bucket is still warm. She is now ready to look at the next bucket.

[Brief video clip of a bucket with a complete rim, one lopsided ear, and smooth, unblemished surfaces. The bucket is rotated slowly so that the rim, ears, and sides can be clearly seen.]

What, if anything, is wrong with this bucket?

A. The rim is missing.
B. Dark spots are on the sides.
C. A handle ear is lopsided.
D. Nothing. The bucket is ready for the next step in the inspection process.

Why this is a Level 4 item:

- The demonstrated task includes more than one component.
- Attention is directed to the important details of the inspection through the camera's close-up shots, although the camera does not dwell for long on any one segment.
- Few extra details are presented.
- Very little distracting information is presented.
- The process is straightforward and clearly explained.