

# Sample Test Packet

## Mechanics Program

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

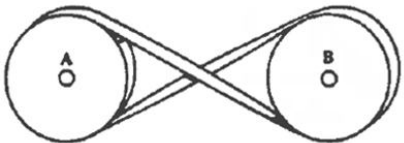
- Mechanical Aptitude
- Problem Solving
- Precision Measurement
- Electrical Aptitude

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

Additional sample test questions may be available on the “Sample Test” page and the “Resources” page of the Program’s website [wpaoperators.org](http://wpaoperators.org), or by searching the above topics on the internet.

## Mechanical Aptitude


**S1.**



**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 .....  C
- D.** no change in pulley speed or direction .....  D

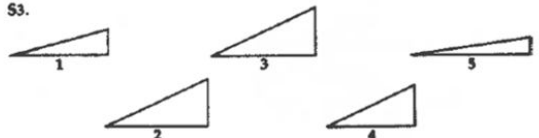
**S2.**



**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

**Sample Answer Sheet**

	A	B	C	D	E
S1.	<input type="radio"/> A	<input type="radio"/> B	<input checked="" type="radio"/> C	<input type="radio"/> D	<input type="radio"/> E
S2.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	<input checked="" type="radio"/> E
S3.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	<input checked="" type="radio"/> E

## Problem Solving

**Example Passage**

Making a hole in a piece of metal is a fairly simple operation. In order to make the hole accurately and quickly, a drill press may be used. The twist drill is the tool used to make the hole. It consists of a cylindrical length of steel with spiral grooves. The grooves, often called flutes, are either cut into the steel cylinder or are made by twisting a flat length of steel into a cylindrical shape.

**Practice Exercise X**

A drill press will make a hole

- A.** accurately and quickly.
- B.** simply and quickly.
- C.** accurately and simply.
- D.** fairly quickly.

**Practice Exercise Y**

What are the grooves in a twist drill often called?

- A.** Flats
- B.** Spirals
- C.** Flutes
- D.** Cylinders

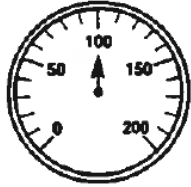
**Sample Answer Sheet**

<b>X</b>	<input checked="" type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	<input type="radio"/> E
<b>Y</b>	<input type="radio"/> ①	<input type="radio"/> ②	<input checked="" type="radio"/> ③	<input type="radio"/> ④	<input type="radio"/> ⑤

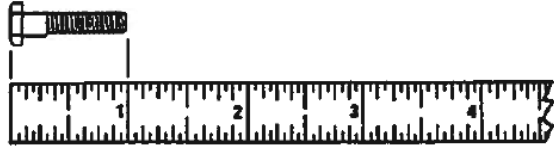
**Practice Exercises**

H. The gauge below shows a reading of

- A. 0.
- B. 50.
- C. 100.
- D. 150.
- E. 200.



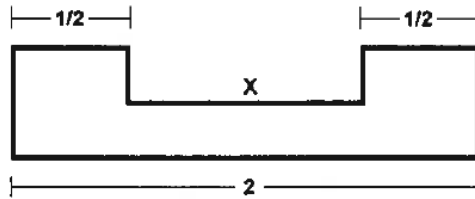
I. Measure the following.



- A.  $1/2$ "
- B.  $3/4$ "
- C. 1"
- D.  $1 1/2$ "

J. What is the length of X in the diagram below?

- A.  $1/2$
- B. 1
- C.  $1 1/4$
- D.  $1 1/2$
- E. 2



**SAMPLE ANSWER SHEET**

	A	B	C	D	E
H.	①	②	●	④	⑤
I.	①	②	●	④	⑤
J.	①	●	③	④	⑤

**Practice Exercise W**

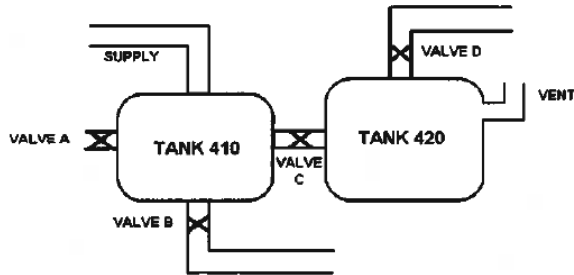
Solve for x.

$$3 + x = 5$$

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

**Practice Exercise Y**

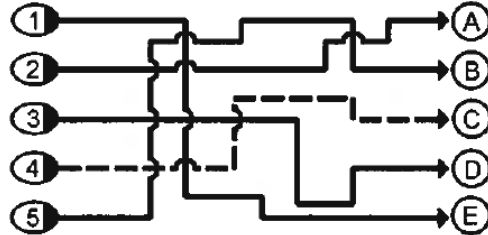
To move liquid from Tank 410 to Tank 420 you should



- A. open valve A.
- B. open valve B.
- C. open valve C.
- D. open valve D.

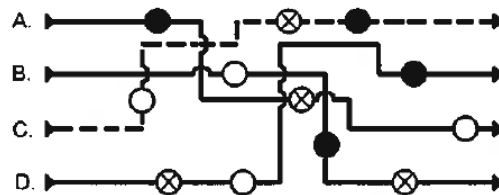
**Practice Exercise X**

Trace the line from left to right to determine the letter at the endpoint. What is the endpoint of line 4?



**Practice Exercise Z**

In order for the connection to be complete, the current must pass through three contacts in exactly the following order  $\bigcirc \otimes \bullet$ . Which connection is complete?



	A	B	C	D	E
W	①	●	③	④	⑤
	A	B	C	D	E
X	①	②	●	④	⑤
	A	B	C	D	E
Y	①	②	●	④	⑤
	A	B	C	D	E
Z	①	②	●	④	⑤