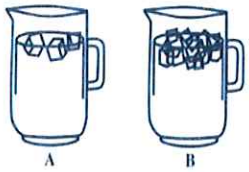
MECHANICAL REASONING PRACTICE TEST

1.

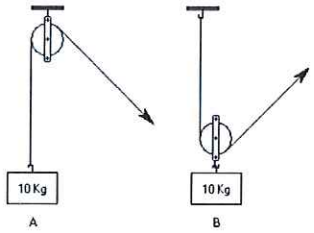
Which pitcher of water will stay cold longer?



A. A
B. B
C. There is no difference

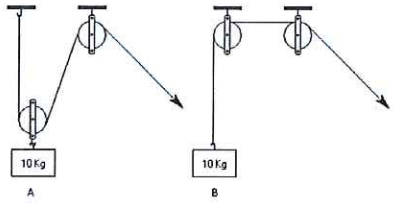
2.

Which weight requires the least force to move?



3.

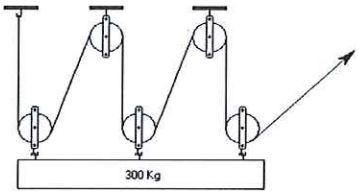
Which weight requires the least force to move?



A) A B) B C) Both require the same force

4.

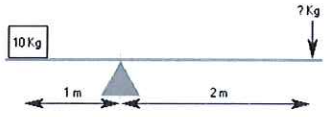
How much force is required to move the weight?



A) 100kg B) 150kg C) 50kg D)60kg

5.

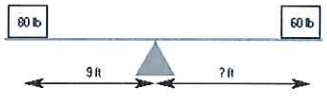
How much weight is required to balance the lever?



A	B	C	D	E
15Kg	5Kg	10Kg	7.5Kg	20Kg

6.

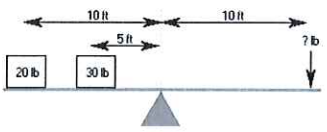
How far from the fulcrum does the 60 lb weight need to be to balance the lever?



A	B	C	D	E
9 ft	7 ft	14 ft	12 ft	10 ft

7.

How much weight is required to balance the lever?

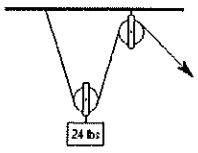


A	B	C	D	E
30 lbs	25 lbs	28 lbs	40 lbs	35 lbs

8.

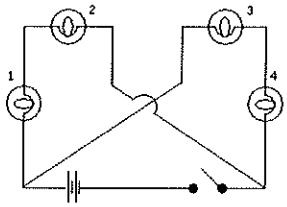
MECHANICAL REASONING PRACTICE TEST

Approximately how much force is needed to lift the weight?



A	B	C	D	E
24 lbs	10 lbs	48 lbs	12 lbs	18 lbs

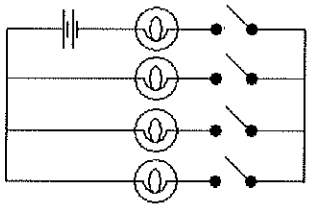
If bulb 1 is removed, how many bulbs will light up when the switch is closed?



A) 1 B) 2 C) 3 D) 0

9.

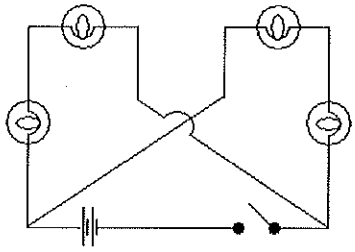
How many switches need to be closed to light up one bulb?



A) 1 B) 2 C) 3 D) 4

10.

How many bulbs will light up when the switch is closed?

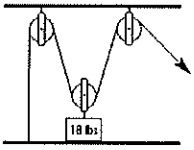


A) 1 B) 2 C) 3 D) 4

11.

12.

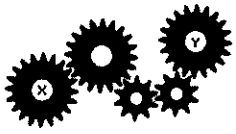
Approximately how much force is needed to lift the weight?



A	B	C	D	E
36 lbs	10 lbs	18 lbs	9 lbs	14 lbs

13.

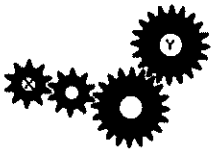
If gear X turns clockwise at a constant speed of 10 rpm. How does gear Y turn?



A	B	C	D	E
anti c/w 10 rpm	c/w 10 rpm	c/w 5 rpm	anti c/w 5 rpm	c/w 20 rpm

14.

If gear X turns clockwise at a constant speed of 10 rpm. How does gear Y turn?

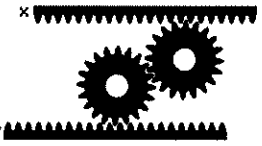


A	B	C	D	E
anti c/w 10 rpm	c/w 10 rpm	c/w 5 rpm	anti c/w 5 rpm	c/w 20 rpm

MECHANICAL REASONING PRACTICE TEST

15.

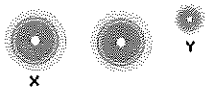
If bar Y moves left a constant speed. How does bar X move?



A	B	C	D	E
Left, Faster	Left, Same	Left, Slower	Right, Same	Right, Slower

16.

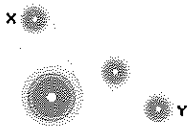
If drive wheel X rotates clockwise at a speed of 10 rpm. How does wheel Y turn?



A	B	C	D	E
anti c/w faster	c/w slower	c/w faster	anti c/w slower	anti c/w same

17.

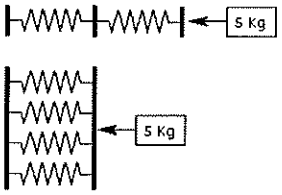
If drive wheel X rotates clockwise at a speed of 10 rpm. How does wheel Y turn?



A	B	C	D	E
anti c/w faster	c/w slower	c/w faster	anti c/w slower	c/w same

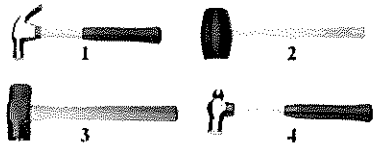
18.

A force of 5 Kg compresses the springs in series 10cm. What will be the total distance that the springs in parallel are compressed?



A	B	C	D	E
2.5 cms	5 cms	7.5 cms	10 cms	15 cms

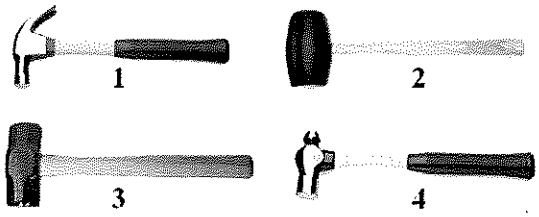
19.



Which is the most suitable tool for breaking up concrete?

A	B	C	D	E
None	1	2	3	4

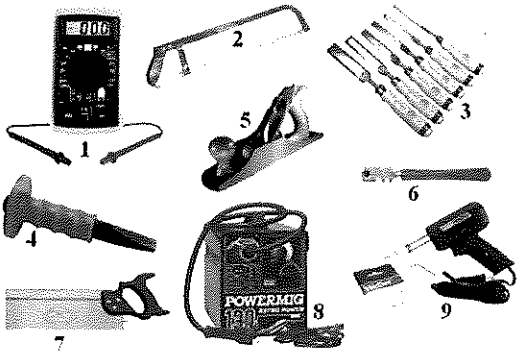
20.



Which is the most suitable tool for assembling a friction fit wooden frame?

A	B	C	D	E
None	1	2	3	4

MECHANICAL REASONING PRACTICE TEST



21.

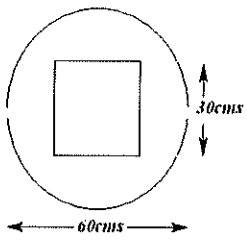
Which tool or combination of tools would be most useful for general woodwork?

A	B	C	D	E
4 & 2	3, 5 & 7	2, 4 & 6	4 & 7	3 & 6

22.

Which tool or combination of tools would be most useful for repairing a broken radio?

A	B	C	D	E
1 & 8	3, 5 & 7	8	1 & 9	3 & 6



The sketch above shows a component which is stamped out of sheet steel. The square in the center is discarded. These components are stamped out of a continuous steel coil with a width of 70 cms. The stamping process requires a gap of 25mm between each component. The steel coil is supplied in lengths of 25 meters costing $200.

23.

What is the approximate area of the remaining shape in square centimetres?

A	B	C	D	E
1938	1855	1926	1860	1760

24.

What is the approximate percentage of steel wasted including the center square?

A	B	C	D	E
56%	50%	62%	48%	52%

25.

Assuming minimal wastage, how many components can be produced from each 25 meter coil?

A	B	C	D	E
38	40	36	42	37

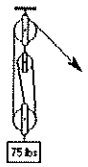
26.

What is the approximate cost of a component if the scrap is sold at 50% of cost?

A	B	C	D	E
$3.60	$3.15	$3.55	$5.00	$4.85

27.

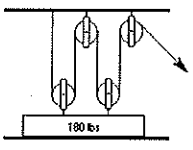
Approximately how much force is needed to lift the weight?



A	B	C	D	E
75 lbs	35.5 lbs	25 lbs	50 lbs	15 lbs

28.

Approximately how much force is needed to lift the weight?



A	B	C	D	E
30 lbs	45 lbs	60 lbs	90 lbs	120 lbs

29.

MECHANICAL REASONING PRACTICE TEST

If gear X turns clockwise at a constant speed of 10 rpm. How does gear Y turn?

A	B	C	D	E
anti c/w 10 rpm	c/w 10 rpm	c/w 20 rpm	anti c/w 5 rpm	anti c/w 20 rpm

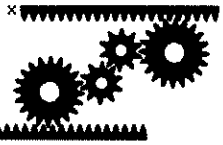
30.

If gear X turns clockwise at a constant speed of 10 rpm. How does gear Y turn?

A	B	C	D	E
anti c/w 10 rpm	c/w 10 rpm	c/w 5 rpm	anti c/w 5 rpm	c/w 20 rpm

31.

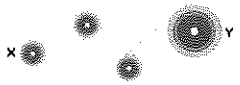
If bar Y moves left a constant speed. How does bar X move?



A	B	C	D	E
Left, Faster	Right, Same	Left, Slower	Left, Same	Right, Slower

32.

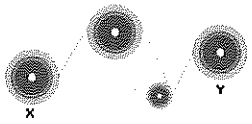
If drive wheel X rotates clockwise at a speed of 10 rpm. How does wheel Y turn?



A	B	C	D	E
anti c/w faster	c/w slower	c/w faster	anti c/w slower	anti c/w same

33.

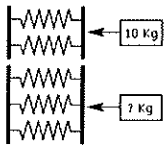
If drive wheel X rotates clockwise at a speed of 10 rpm. How does wheel Y turn?



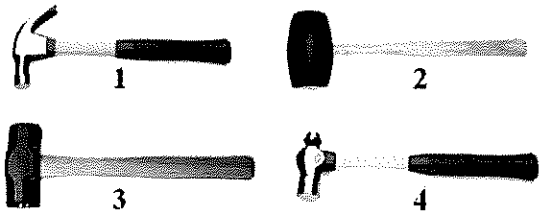
A	B	C	D	E
anti c/w faster	c/w slower	c/w faster	anti c/w slower	c/w same

34.

A force of 10 Kg compresses the two springs in parallel 10cm. How much force is required to compresses three springs in parallel 10cm?



A	B	C	D	E
5 Kg	10 Kg	7.5 Kg	12 Kg	15 Kg



35.

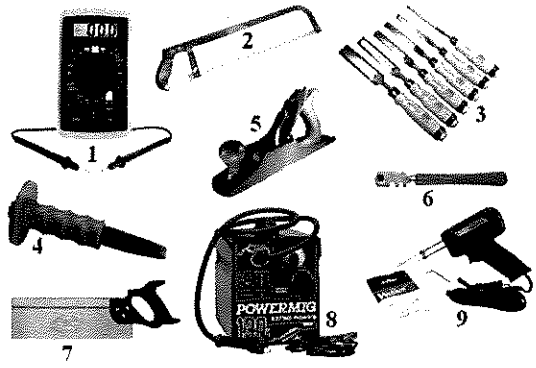
Which is the most suitable tool for general carpentry?

A	B	C	D	E
None	1	2	3	4

36.

Which is the most suitable tool for general metalwork?

A	B	C	D	E
None	1	2	3	4



MECHANICAL REASONING PRACTICE TEST

37.

Which tool or combination of tools would be most useful for fitting an entertainment system to a vehicle?

A	B	C	D	E
1 & 9	6	8	2 & 8	9

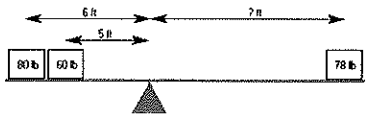
38.

Which tool or combination of tools would be most useful for constructing a mild steel frame?

A	B	C	D	E
3 & 4	9	1 & 9	2 & 8	6

39.

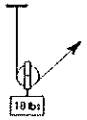
How far from the fulcrum does the 78 lb weight need to be to balance the lever?



A	B	C	D	E
6 ft	11 ft	10 ft	8ft	12 ft

40.

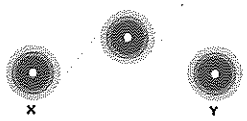
Approximately how much force is needed to lift the weight?



A	B	C	D	E
9 lbs	18 lbs	6 lbs	24 lbs	10 lbs

41.

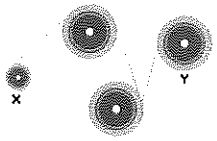
If drive wheel X rotates clockwise at a speed of 10 rpm. How does wheel Y turn?



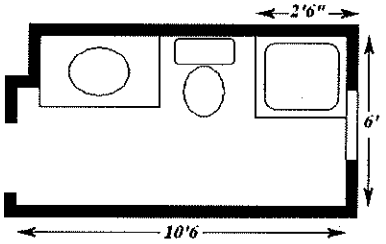
A	B	C	D	E
anti c/w faster	c/w slower	c/w faster	anti c/w slower	c/w same

42.

If drive wheel X rotates clockwise at a speed of 10 rpm. How does wheel Y turn?



A	B	C	D	E
anti c/w faster	c/w slower	c/w faster	anti c/w slower	c/w same



The sketch shows the floor plan of a bathroom. The shower tray is 2'6" square and is fixed to the floor. The toilet and washbasin are both wall mounted.

43.

Allowing for 15% wastage, approximately how many square yards of floor tiles should be ordered?

A	B	C	D	E
7.25	6.25	9.25	5.50	8.50

44.

The floor tiles measure 6" square and can be laid at a rate of 30 per hour. Approximately how long will it take to tile the floor?

A	B	C	D	E
14 hrs	4 hrs	12 hrs	8 hrs	10 hrs

45.

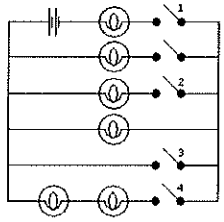
The bathroom is 8' high, the window measures 2' square and the door measures 7' x 2'6". How many square yards is the remaining wall area of the room?

A	B	C	D	E
32	22	24	25	27

46.

MECHANICAL REASONING PRACTICE TEST

How many bulbs will light when switches 1, 2, 3 and 4 are closed?



A	B	C	D	E
None	One	Two	Three	Four

1.	B
2.	B
3.	A
4.	C
5.	B
6.	D
7.	E
8.	D
9.	B
10.	D
11.	B
12.	D
13.	B
14.	D
15.	B
16.	C
17.	E
18.	A
19.	D
20.	C
21.	B
22.	D
23.	C
24.	A
25.	B
26.	C
27.	C
28.	B
29.	C
30.	B
31.	D
32.	B
33.	E
34.	E
35.	B
36.	E
37.	A
38.	D
39.	C
40.	A
41.	E
42.	**D**
43.	**A**
44.	**D**
45.	**E**
46.	**E**