

1. The process of changing position

2. The starting point you choose to describe the location, or position of an object

3. The distance an object travels
in a unit of time

4. Speed & direction of a moving object

5. A push or a pull on an object

6. When the net force on an object is not 0N

7. If the net force on an object is
0N.

8. A contact force that resists the sliding motion of two surfaces that are touch

9. An attractive force that exists
between all objects that have
mass

10. The frictional force between air and objects moving through it

11. A measure of the
gravitational force acting on an
object's mass

12. A measure of the amount of matter in an object

13. The difference between the
init

**SKIP THIS
QUESTION!**

14. The total distance an object travels divided by the total time it travels

15. A graph that shows how distance and time are related

16. A push or pull one object applies to another object that is touching it

17. A force that one object applies to another object without touching it

18. The sum of all the forces
acting on an object

19. Fill in the blanks to explain the
Law of Gravity proposed by
Newton.

All objects are (a)_____ to each other.

Two things will affect the pull of gravity between 2
objects:

One is the (b)_____ of the objects and the other is
the (c)_____ between the two objects.

20. Which property of matter changes from planet to planet?

- a. Mass
- b. Weight
- c. Volume
- d. Area

21. Why would you weigh most on Jupiter?

- a. Jupiter has less mass than the other planets, so it has the most gravitational pull.
- b. Jupiter has more mass than the other planets, so it has the most gravitational pull.
- c. Jupiter has more mass than the other planets, so it has the least gravitational pull.
- d. Jupiter has less mass than the other planets, so it has the least gravitational pull.

22. What is the formula for calculating speed?

23. What is the formula for calculating distance?

24. What is the formula for calculating time?

25. What two things does a velocity tell about an object's motion?

**Show the formula,
equation & answer
on the following
problems.**

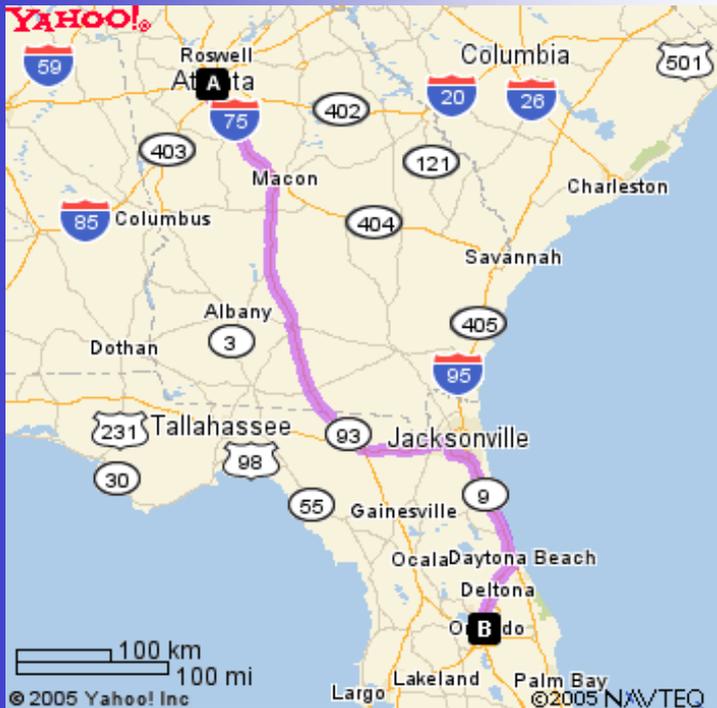
26. A cheetah is running after its prey. It dashes for a meerkat that is 7 meters away. It reaches the meerkat in just 2 seconds. What is the cheetah's average speed?

27. You are at one end of a solid metal pipe, and your friend is at the other end. Your friend hits the pipe. You hear the sound 1.5 seconds later. You both measure the pipe, and it is 7,500 meters. At what average speed did the sound your friend made travel through the pipe?

28. You clocked an ant traveling from a fig tree to its ant hole. He reached his home in 25 seconds. You determined the ant's speed to be 30 cm/s. What is the distance?

29. You are traveling with your family to Disney World. Your father tells you that Disney World is 480 kilometers away and you will be traveling a 60km/hr. What is your **time** to get to Disney World?

30. You are traveling with your family to Disney World from Atlanta, Georgia. Your father tells you that Disney World is 410 kilometers away. It will take you 5 hours to reach Disney World. What is your velocity?



31. Give 2 examples of contact forces

32. Give two examples of noncontact forces

33. Sketch a graph for this data:

Skippy the Turtle's Maze Run	
Distance (m)	Time (min)
0	0
.5	1
1.5	2
2.0	3
2.0	4
2.5	5
3.0	6
4.0	7

34. Which graph(s) shows a constant speed?

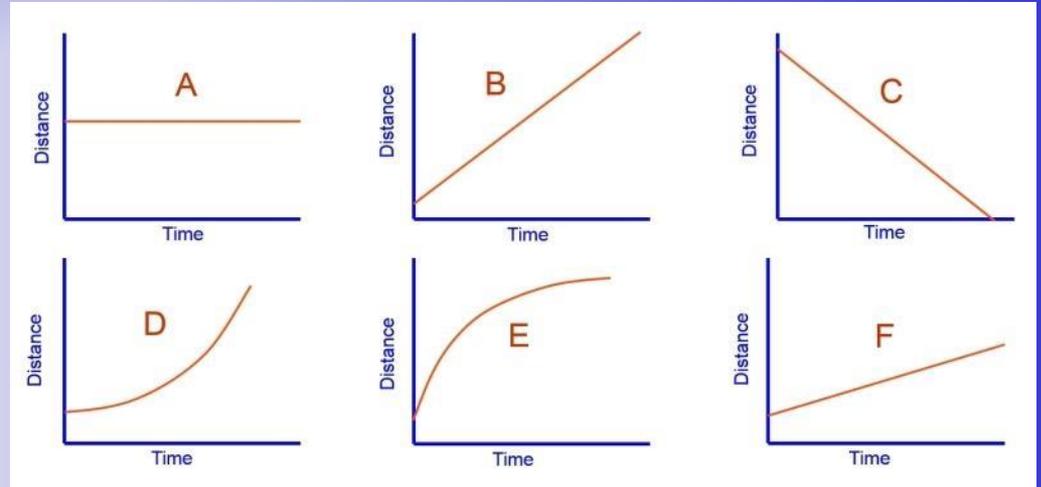
35. Which graph shows a decrease in speed?

36. Which graph shows an increase in speed?

37. Which graph shows an object that is stopped?

38. Which graph shows an object going back to the start?

39. Which graph (B or F) is the object moving faster?



40 – 43. Complete the data.

Inclined Planes Data Collection					
Length (m)	Height (m)	Ideal MA	Output	Input	Actual MA
9	3		10	2	
8	2		6	3	

44 – 47. Identify the type of pulleys. (44 is a, 45 is b...)

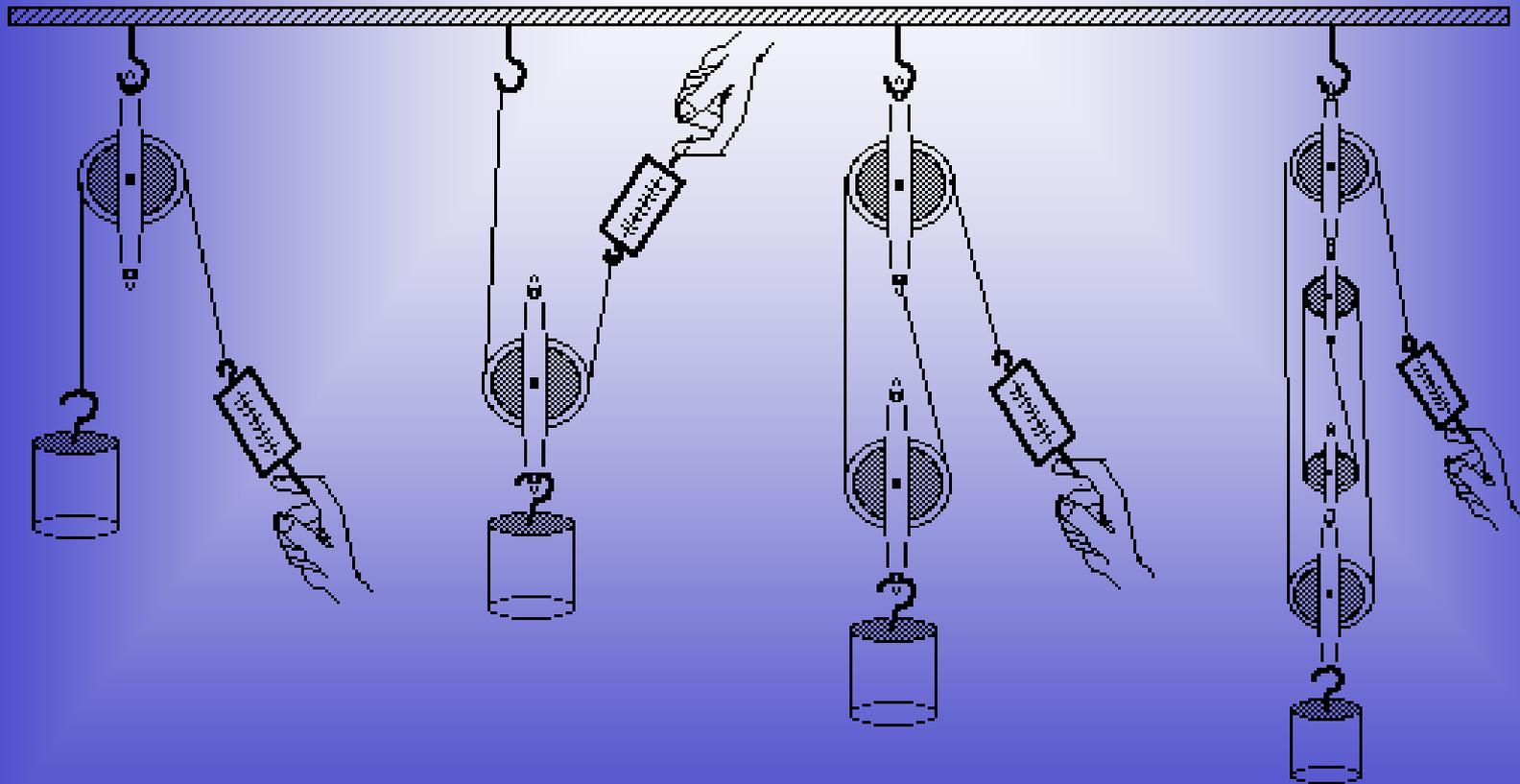


Figure A

Figure B

Figure C

Figure D

48. Which pulley only changes the direction of the force, not the input force?

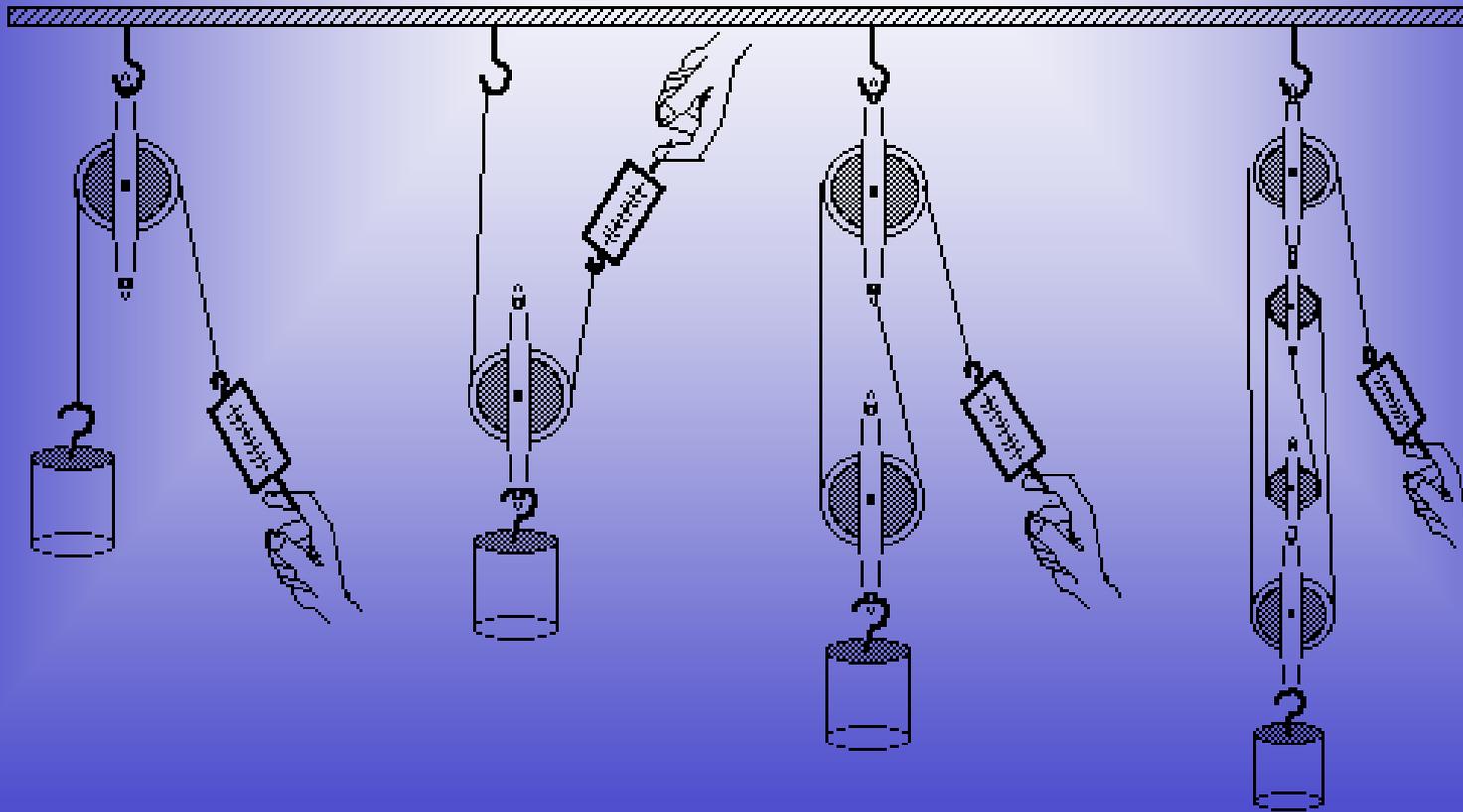


Figure A

Figure B

Figure C

Figure D

49. Which pulley represents the setup with the greatest mechanical advantage?

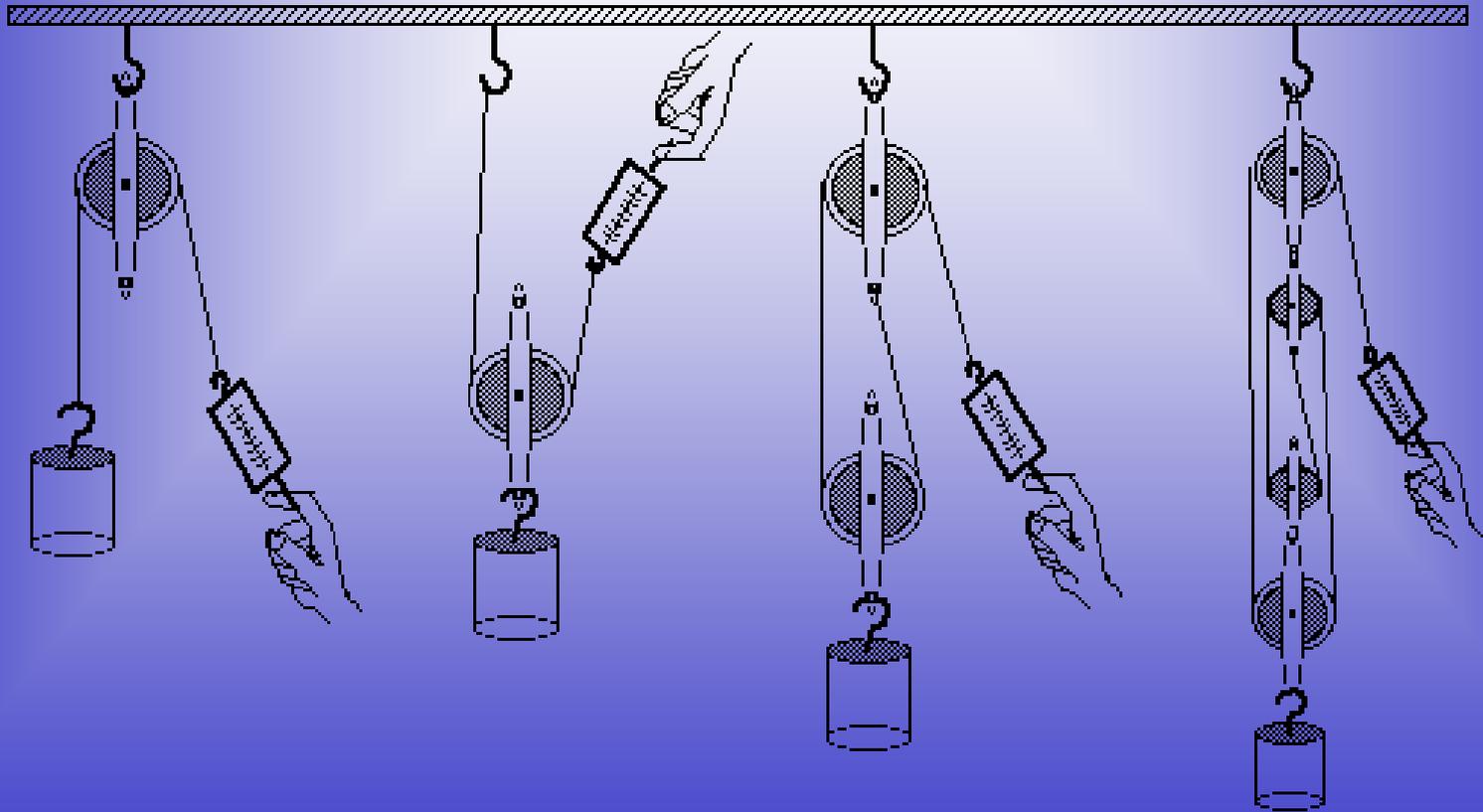


Figure A

Figure B

Figure C

Figure D

Check your answers

& mark any you want to review.

1. The process of changing
position **motion**

2. The starting point you choose to describe the location, or position of an object
reference point

3. The distance an object travels
in a unit of time

speed

4. Speed & direction of a moving
object
velocity

5. A push or a pull on an object
force

6. When the net force on an
object is not 0N
unbalanced force

7. If the net force on an object is
0N
balanced force

8. A contact force that resists the sliding motion of two surfaces that are touch
friction

9. An attractive force that exists
between all objects that have
mass

gravity

10. The frictional force between
air and objects moving through it
air resistance

11. A measure of the
gravitational force acting on an
object's mass

weight

12. A measure of the amount of
matter in an object

mass

13. The difference between the initial, or starting, position and the final position
displacement

14. The total distance an object travels divided by the total time it travels

average speed

15. A graph that shows how distance and time are related
distance-time graph

16. A push or pull one object applies to another object that is touching it

contact force

17. A force that one object
applies to another object without
touching it

noncontact force

18. The sum of all the forces
acting on an object
net force

19. Fill in the blanks to explain the Law of Gravity proposed by Newton.

All objects are (a) **attracted** to each other.

Two things will affect the pull of gravity between 2 objects:

One is the (b) **mass** of the objects and the other is the (c) **distance** between the two objects.

20. Which property of matter changes from planet to planet?

- a. Mass
- b. Weight
- c. Volume
- d. Area

21. Why would you weigh most on Jupiter?

- a. Jupiter has less mass than the other planets, so it has the most gravitational pull.
- b. Jupiter has more mass than the other planets, so it has the most gravitational pull.
- c. Jupiter has more mass than the other planets, so it has the least gravitational pull.
- d. Jupiter has less mass than the other planets, so it has the least gravitational pull.

22. What is the formula for calculating speed?

$$S = D \div T$$

23. What is the formula for calculating distance?

$$D = S \times T$$

24. What is the formula for calculating time?

$$T = D \div S$$

25. What two things does a velocity tell about an object's motion?

Speed and direction

26. A cheetah is running after its prey. It dashes for a meerkat that is 7 meters away. It reaches the meerkat in just 2 seconds. What is the cheetah's average speed?

$$S = D \div T$$

$$S = 7 \text{ m} \div 2 \text{ sec} =$$

$$S = 3.5 \text{ m/sec}$$

27. You are at one end of a solid metal pipe, and your friend is at the other end. Your friend hits the pipe. You hear the sound 1.5 seconds later. You both measure the pipe, and it is 7,500 meters. At what average **speed** did the sound your friend made travel through the pipe?

$$S = D \div T$$

$$S = 7,500 \text{ m} \div 1.5 \text{ sec} =$$

$$S = 5000 \text{ m/sec}$$

28. You clocked an ant traveling from a fig tree to its ant hole. He reached his home in 25 seconds. You determined the ant's speed to be 30 cm/s. What is the distance?

$$D = S \times T$$

$$D = 30 \text{ cm/sec} \times 25 \text{ sec}$$

$$D = 750 \text{ cm}$$

29. You are traveling with your family to Disney World. Your father tells you that Disney World is 480 kilometers away and you will be traveling a 60km/hr. What is your time to get to Disney World?

$$T = D \div S$$

$$T = 480 \text{ km} \div 60 \text{ km/hr}$$

$$S = 8 \text{ hours}$$

31. Give 2 examples of contact forces

pushing someone in football
wrecking ball crashing into a wall
friction

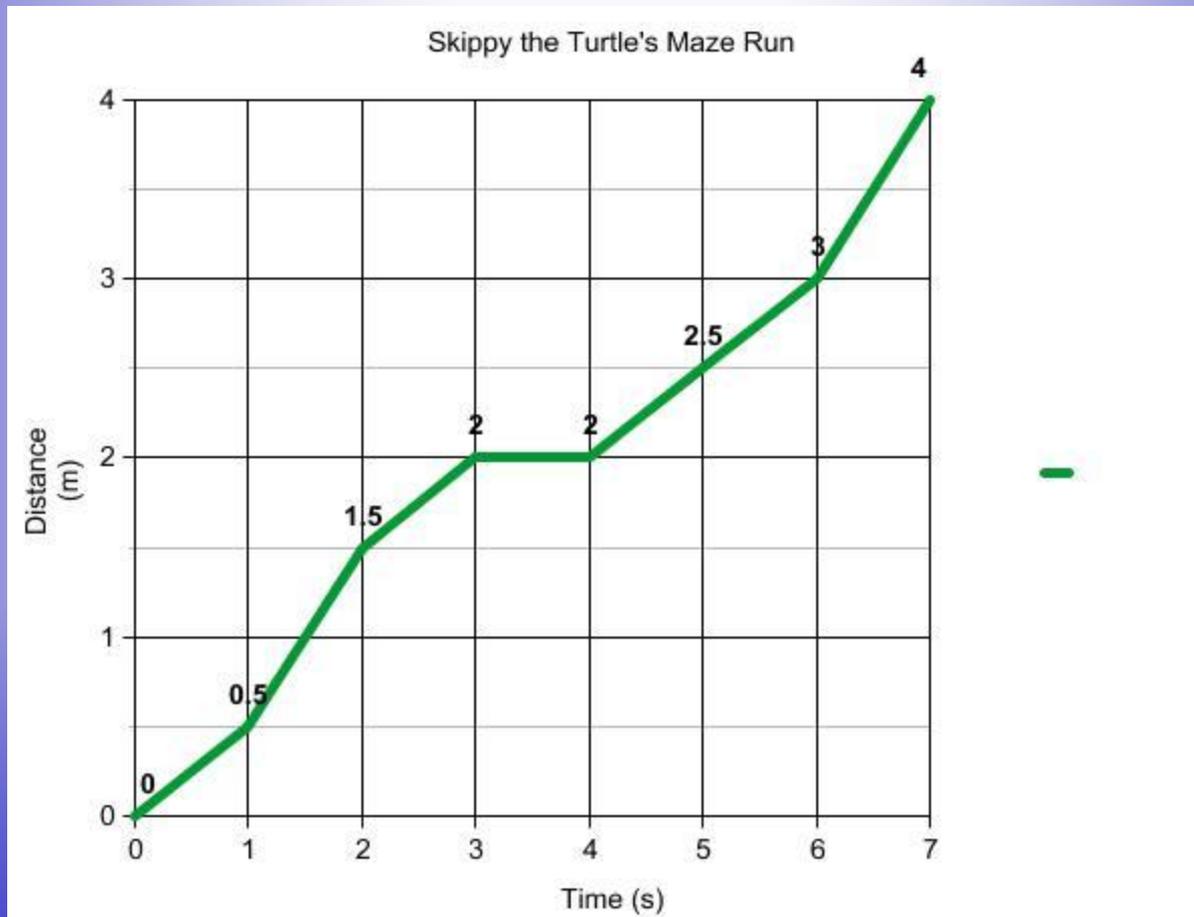
32. Give two examples of
noncontact forces

gravity

static electricity

magnetism

33. Graph this data

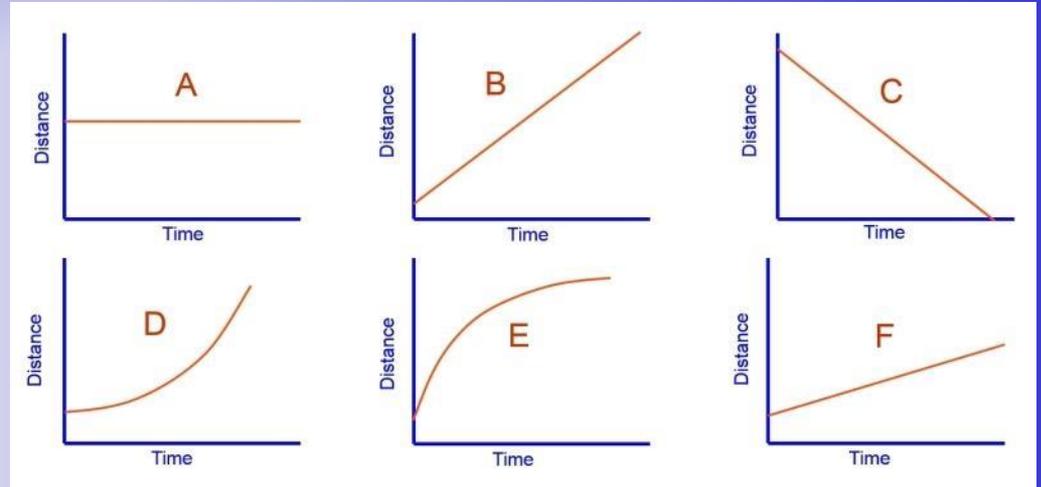


34. Which graph(s) shows a constant speed? **(B, C -decrease, F)**

35. Which graph shows a decrease in speed? **(E)**

36. Which graph shows an increase in speed? **(D)**

37. Which graph shows an object that is stopped? **(A)**



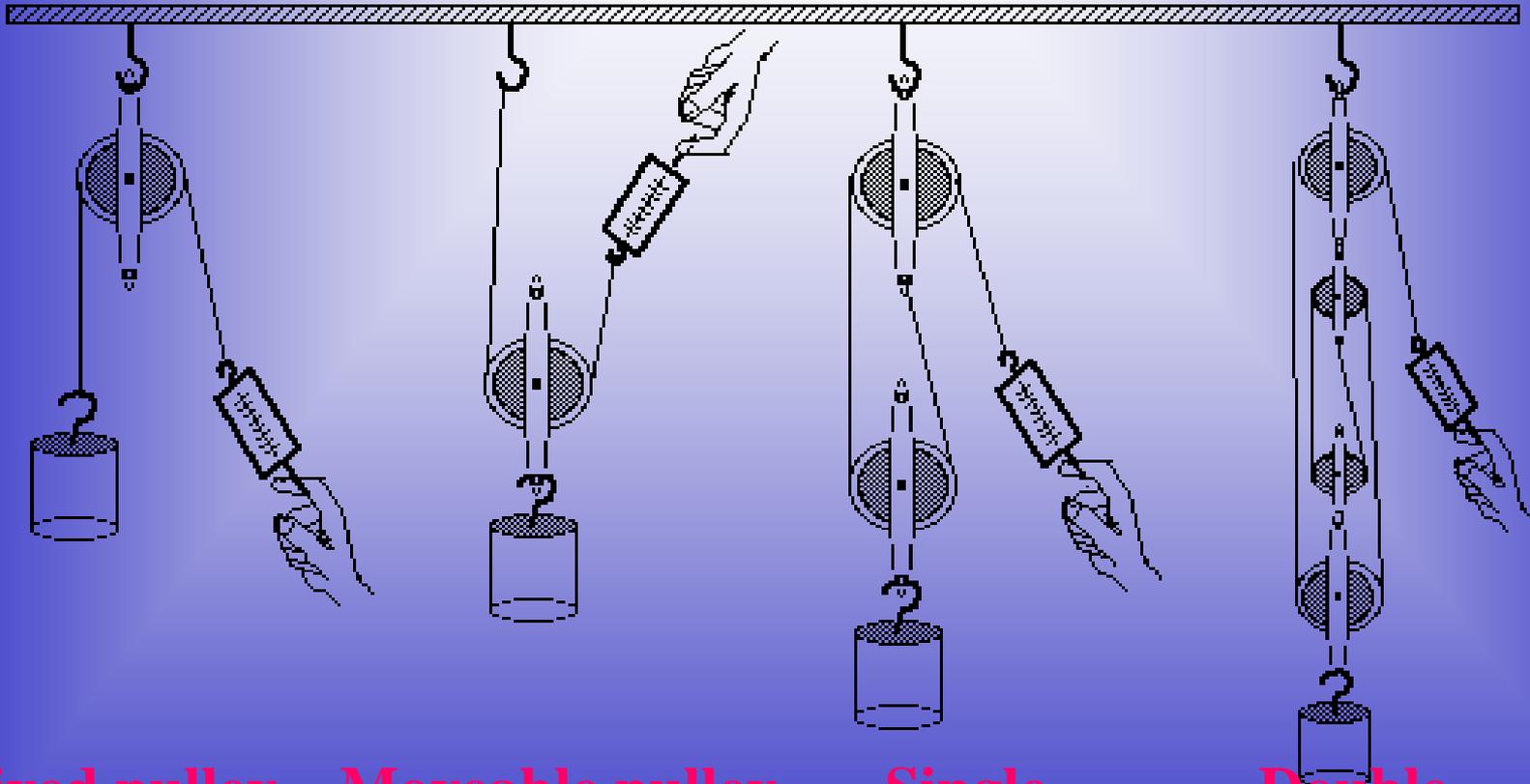
38. Which graph shows an object going back to the start? **(C)**

39. Which graph (B or F) is the object moving faster? **(B)**

40 – 43. Complete the data.

Inclined Planes Data Collection					
Length (m)	Height (m)	Ideal MA	Output	Input	Actual MA
9	3	3	10	2	5
8	2	4	6	3	2

44 – 47. Identify the type of pulleys. (44 is a, 45 is b...)



Fixed pulley

Moveable pulley

Single

Double

Figure A

Figure B

Figure C

Figure D

pulley system

pulley system

48. Which pulley only changes the direction of the force, not the input force? **A-fixed pulley**

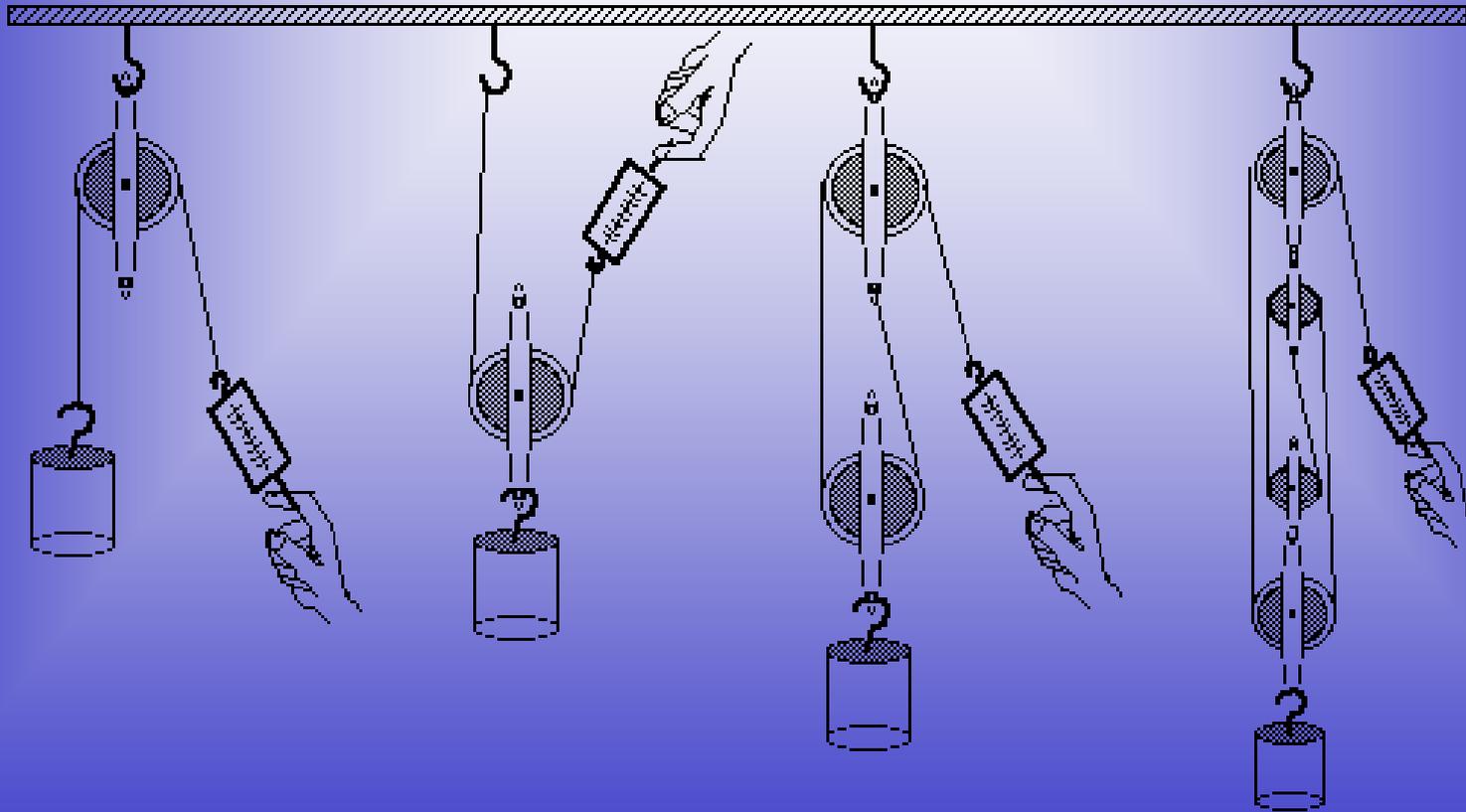


Figure A

Figure B

Figure C

Figure D

49. Which pulley represents the setup with the greatest mechanical advantage? **D-double pulley system**

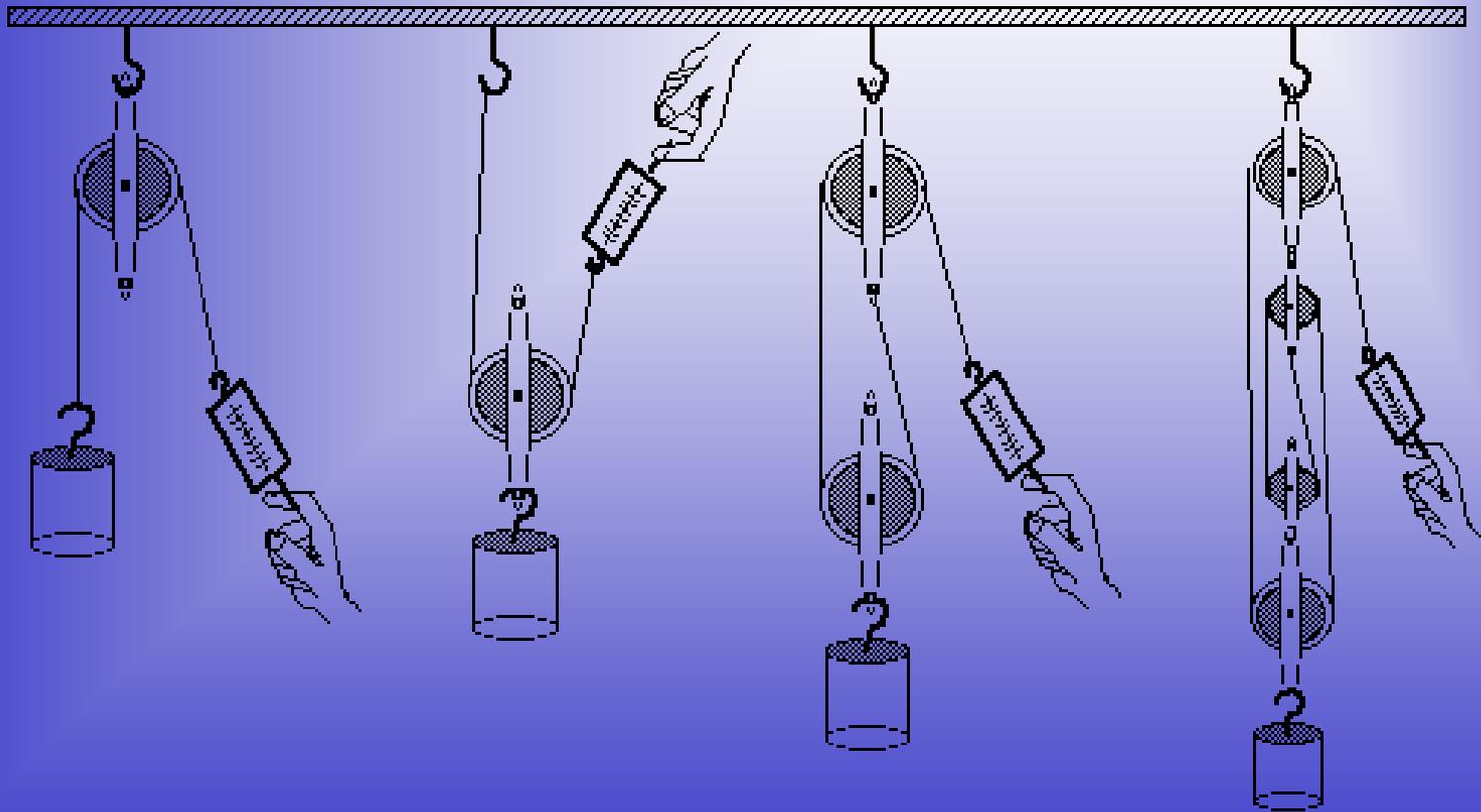


Figure A

Figure B

Figure C

Figure D