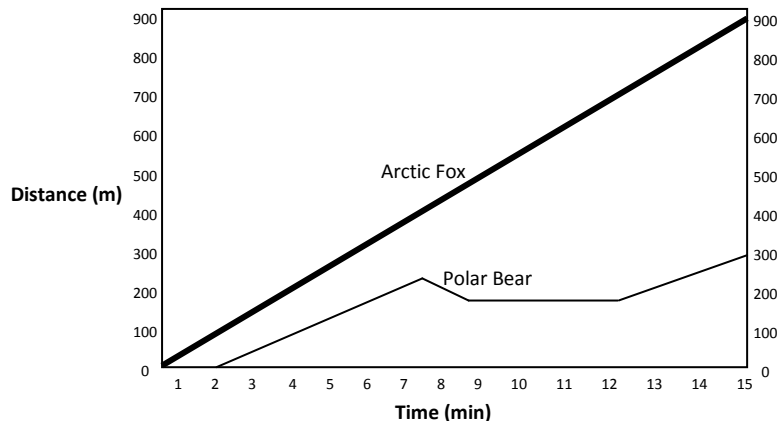


Motion IOLA TEST Review

ANSWERS

1. What do we use to determine if things are in motion? (we feel (accelerate) or see a reference point)
We compare them to some fixed point that is usually not moving.
This **fixed point** or object is called: **Frame of Reference or Reference point**
2. What is the **formula for speed (or velocity)**? **Speed= Distance/Time**
3. What is the **formula for time**? **Time= Distance/Speed**
4. What is the **formula for distance**? **Distance= Speed x Time**
5. If you travel a distance of 10 km in 5 hours what is your **speed**? **2 km/h**
6. If you are going 2 km/h and need to go 10 km to get to the beach how long will it take you? **5 hours**
7. You travel at 100 km/h for 6 hours. How far have you traveled? **600 km**
8. What is the main **difference** between **speed** and **velocity**? **Direction (information with velocity)**
9. What is the **definition of acceleration** (3 words or less)? **Acceleration** is: **change in velocity.**
10. Name **three things** or ways you can **accelerate**? **Speed up, slow down, turn, friction, air resistance, outside force**
11. What is the **formula** for **acceleration**? **Acceleration= Velocity/Time** or **Acc = Speed/Time**
12. What are the units for acceleration? **m/s²**
13. A police car goes from 20 m/s to 60 m/s in 8 seconds. What is the acceleration of the car? **5 m/s²**
14. What is the **formula for SLOPE**? **Rise/Run** or **y-axis/x-axis**
15. The **SLOPE** of **DISTANCE vs. TIME Graph** is what? **SPEED**
16. The **SLOPE** of **SPEED (VELOCITY) vs. TIME GRAPH** is what? **ACCELERATION**

Use the graph below for questions 17-25.



17. What does the **slope** of either line tell you? **average speed**
18. What is the **Arctic Fox's speed**? **60 m/min**
19. Is the speed of the **Arctic Fox constant** or **changing**? How do you know? **Constant (Straight line)**
20. Is the speed of the **Polar Bear constant** or **changing**? How do you know? **Changing because the slopes of line segments are different.**
21. Does the **Polar Bear's speed change** at all? How do you know? **Yes, slope changes (4 different lines (slopes))**
22. Between 10 and 12 minutes is Polar Bear **moving**? How do you know? **No, horizontal line shows distance did not increase over the time period. The polar bear did not change the distance it moved for that period in time.**
23. Who traveled furthest in 10 minutes? **Arctic Fox**
24. What is the **Fox's average speed** for the **entire 15 minutes**? **60 m/min**
25. What is the **Polar Bear's average speed** for the **entire 15 minutes**? **20 m/min**