Name:_____ Date:_____

Math 8/9H: Section 3.4 STD Speed Time and Distance:

1. It took 25 minutes to drive from Andy's home to a math contest in UBC. If the distance travelled was 20km, what was the average speed of the drive in km/hr?

2. How long will it take a plane flying at 500km/h to travel 4500km?

3. Jack rode his bike travelling at 30km/h for 30min. Then he ran 25km in 2hours. What is his average speed?

4. A car is traveling 50 miles per hour. What is its speed in feet per minute? (1 mile = 1760 yards; 1 yard =3feet)

5. Sam is driving at 60 miles per hour. How many feet does he drive per second? (There are 5280 feet in 1 mile)

6. Sound travels at the rate of 1130 feet per second. How far away is a lightning strike is the sound of thunder reaches you 7 seconds after you see the lightning flash? Assume the speed of light is infinite. Round your answer to the nearest tenth of a mile.

7. The hill behind Antonio's house is long and steep. He can walk down it at 4.5 km/hr, but he can walk up it at only 1.5km/hr. If it takes him 6 hours to make the round trip, what is the distance, in kilometers, from his house to the top of the hill?

(a) 18 (b) $\frac{27}{2}$ (c) 9 (d) $\frac{27}{4}$ (e) 6

8. In the first 6 games of the football season, Dave scored 84 points. If he continued scoring at this rate, how many points would he score in 15 games?

9. Two towns are 80 km apart. Sylvia wants to drive from one town to the other in exactly one hour. For the first 30 minutes she drives at a rate of 60 km/h. At what constant rate must she drive for the next 30 minutes if she is to accomplish her goal?

10. Alan and Bryon drove on the freeway, in separate cars, from Miniburg to Microville. They left Miniburg at the same time. Alan drove at a steady 90km/hr and Bryon drove at a steady 80km/hr. Alan arrived in Microville 10 minutes before Bryon did. What is the freeway distance from Miniburg to Microville?

11. Two girls, 60km apart, start cycling toward each other at the same time. One girl cycles at 18km/h. How fast must the other girl cycle if they are to meet in 1.5h?

12. Car A and car B leave Vancouver on the same road 1h apart. Car A leaves first and travels at a steady 80km/h. How fast must car B travel to overtake car A in 4h?

13. Driving between two towns at 110 km/h instead of 100 km/h saves 9 minutes. What is the distance in kilometres between the two towns?

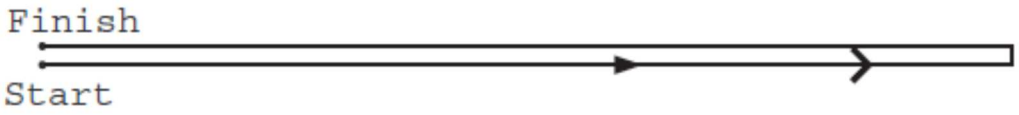
14. A rectangular field is 50% longer than it is wide. The perimeter of the field is 300meters. What is the area of the field, in square meters.

15. Beth is one-fifth of the way through her cross-country race. After she runs a further three-quarters of a km, she will be one-quarter of the way through the race. Over how many km is the whole race?

16. Brenda and Sally run in opposite directions on a circular track, starting at diametrically opposite points. They first meet after Brenda has run 100 meters. They next meet after Sally has run 150 meters past their first meeting point. Each girl runs at a constant speed. What is the length of the track in meters?

17. Alex and Becky are racing in a peculiar manner. They both begin at the same spot on a 1 km circular track and move in opposite directions. Alex runs at 4 m/s and Becky runs at 5 m/s. How many times would they have passed each other if the race stops after 1 hour?

18. Sam jogs at a steady rate of 5 minutes per kilometer. Ed jogs at 7minutes per km. They start at the same time on out and back run that consists of 15km due east followed by 15km due west. How many kilometers from the finish line is Sam when they pass next to each other? Give the answer correct to 1 decimal place.



19. Two candles of the same height are lit at the same time and both burn at a constant rate. The first is consumed in four hours, the second in three hours. What is the number of minutes after being lit will the height of the first candle be twice of the second candle?

(a) 36 (b) 48 (c) 90 (d) 120 (e) 144

20. Nathan walks along a straight path that goes directly from his house (N) to his grandfather's house (G). Some of this path is on flat ground, and some is downhill, or uphill. Nathan walks on flat ground at 5km/h, walks uphill at 4km/h, and walks downhill at 6km/hr. It takes Nathan 1 hour and 36 minutes to walk from "N" to "G" and 1 hour and 39 minutes to talk from "G" to "N". If 2.5 km of the path between "N" and "G" is on flat ground, what is the total distance from "N" to "G"?

21.

Dolly, Molly and Polly each can walk at 6 km/h. Their one motorcycle, which travels at 90 km/h, can accommodate at most two of them at once (and cannot drive by itself!). Let t hours be the time taken for all three of them to reach a point 135 km away. Ignoring the time required to start, stop or change directions, what is true about the smallest possible value of t?

(A) $t < 3.9$ **(B)** $3.9 \leq t < 4.1$ **(C)** $4.1 \leq t < 4.3$
(D) $4.3 \leq t < 4.5$ **(E)** $t \geq 4.5$