Practice for 2.3

On a separate sheet of paper, show your work. List your knowns (suvat), show which formula you are going to use, and show the knowns in that formula.

	Regular one step or two step problems:
11.2 m	1. A Pirate Ship accelerates uniformly from 1.80 m/s to 5.60 m/s with an acceleration of 1.25 m/s/s. What was its displacement?
8.28 m/s	2. A lemur going 3.45 m/s accelerates at 1.52 m/s/s for 3.18 s. What is its final velocity?
-8.85 m/s/s	3. A giant lizard stops in 5.85 m in 1.15 s. What was its acceleration?
12.4 s	4. A tuna going 2.35 m/s accelerates at 0.208 m/s/s covering a distance of 45.0 m. What time did it take?
7.27 m	5. A lemming speeds up from rest to 5.19 m/s in 2.80 s. What is its displacement during this time?
21.6 m/s	6. An accident scene detective knows that a car with a deceleration of -7.14 m/s/s was brought to rest in 32.8 m. What was the initial velocity?
-1.22 m/s/s	7. What is the acceleration of an ATV that goes from 12.0 m/s to 7.50 m/s in 3.68 s?
41.9 m	8. A XC runner accelerates uniformly for 8.20 s at 0.540 m/s/s having a final velocity of 7.32 m/s. What is their displacement during this time?
22.8 m/s	9. A racecar accelerates at 5.13 m/s/s for 3.35 s covering a distance of 105 m. What was its initial velocity?
21.9 m/s	10. A car avoiding an accident is brought to rest over a distance of 56.0 m in 5.12 s. What was its initial velocity?
-4690 m/s/s	11. A baseball going 38.0 m/s decelerates to rest over a distance of 0.154 m. What was its deceleration? (It's big)
-2.01 m/s/s	12. A car goes from 27.2 m/s to 14.7 m/s in 6.23 s. What is its acceleration?
458 m	13. A train going 45.0 m/s decelerates at -2.17 m/s/s for 17.9 s. What is its displacement during this time?
4.36 m/s	14. A hamster going 2.7 m/s accelerates uniformly for 6.52 s, covering a distance of 23.0 m. What was its final velocity? (it's riding a hamster scooter)
2.33 s	15. A car is going 15.0 m/s after having decelerated at -6.25 m/s/s over a distance of 52.0 m. What time did it take?
-25.1 m/s	16. A hot pocket accelerating at -9.81 m/s/s from rest falls downward -32.1 m. What is the final velocity?
18.2 m/s	17. A car accelerates uniformly for 8.70 s with a final velocity of 31.5 m/s over a distance of 216 m. What was its initial velocity?
2.39 s	18. A car that can brake at -8.92 m/s/s will take what time to decelerate from 33.1 m/s to 11.8 m/s?
81.6 m	19. A rollercoaster car going 8.60 m/s decelerates at -0.215 m/s/s for 11.0 s. What was its displacement during this time?
47.1 s	20. A space probe is going 615 m/s after having decelerated at -0.147 m/s/s over a distance of 29,100 m. What time did it take?
	Two-part kinematics problems:
39.2 m	21. A dragon boat accelerates from 1.13 m/s to 3.60 m/s in 4.13 seconds. Over what distance could it accelerate from rest to 6.85 m/s if it had the same acceleration?
4.98 s	22. A car accelerates uniformly from rest, covering 65.0 m in 5.62 seconds. What time would it take the same car to go from 8.90 m/s to 29.4 m/s if it had the same acceleration?
7.73 m/s	23. A runner covers 21.5 m accelerating uniformly from rest to 9.94 m/s. What was their speed when they had covered only 13.0 m?
2.84 s	24. A train decelerates from 35.0 m/s to 22.0 m/s in 42.0 seconds. What time did it take it to cover 98.0 meters from the beginning?
17.5 s	25. A car accelerates from rest to 23.0 m/s over a distance of 231 m. What time would it take it to accelerate from rest to 20.0 m/s if it accelerated at the same rate?