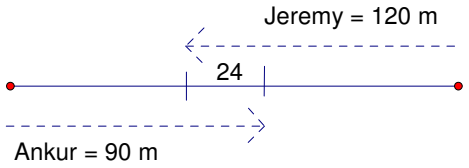
1. $\boxed{50 \text{ mph}}$

2. $\boxed{60 \text{ kph}}$

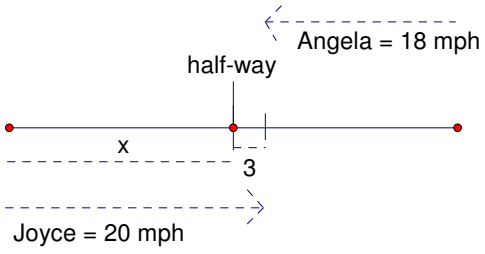
3. In the time period between 3:15 pm and 4:30 pm, 1.25 hours have gone by. Ankur traveled 72 $mph \times 1.25$ $hours = 90$ miles and Jeremy had traveled 96 $mph \times 1.25$ $hours = 120$ miles. At 4:30, they had passed each other and were 24 miles apart.



Looking at our diagram, we see that we can find the distance between the two cities by adding how far both Ankur and Jeremy went, and then subtracting 24 because it's overlapped. So the distance between the cities is $90 + 120 - 24 = \boxed{186 \text{ mi}}$

4. First we need to find out what time it is when the car catches up with the van as well as the car's speed. So if the van travels between 1:05 and 1:35 (or for 30 mins), then he has gone 60 $mph \times .5$ $hour = 30$ miles. How long does it take him to complete the rest of the 210 mile journey? Well, he still has $210 - 30 = 180$ miles to go, and he travels at 60 mph, so the time is 180 $miles \div 60$ $mph = 3$ hours. So in 3 hours, or at 4:35 PM, the car catches up with the van. The car's speed is 210 $miles \div 3$ $hours = 70$ mph. So now at 5:50, which is 1.25 hours away from 4:35, the van has gone 60 $mph \times 1.25$ $h = 75$ miles and the car has gone 70 $mph \times 1.25h = 87.5$ miles. They are $87.5 - 75 = \boxed{12.5 \text{ mi}}$ apart.

5. Since Joyce rides faster, she gets a little farther than Angela, so when it says that they meet 3 miles from the middle of the distance, it means they are 3 miles closer to Angela. Set up a diagram, where we call half the distance between their homes x.



Then Joyce travels a total distance of $x + 3$ (because she goes half the distance x plus the extra 3 miles), and Angela travels a distance of $x - 3$. They travel for the same amount of time, so we can set up an algebraic equation. We know that $T = \frac{D}{R}$, so Joyce's time $T = \frac{x+3}{20}$ and Angela's time $T = \frac{x-3}{18}$. Now since Joyce's time equals Angela's time, or $T = T$, then we can set the two fractions equal to each other: $\frac{x+3}{20} = \frac{x-3}{18}$. Now we cross multiply and get get $18(x + 3) = 20(x - 3)$. Now distribute the 18 and 20: $18x + 18 \times 3 = 20x - 20 \times 3 \Rightarrow 18x + 54 = 20x - 60$. Now we add 60 to both sides of the equation:

$18x + 54 + 60 = 20x - 60 + 60 \Rightarrow = 18x + 114 = 20x$. Now we subtract $18x$ from both sides of the equation: $18x - 18x + 114 = 20x - 18x \Rightarrow 114 = 2x$. So $x = 57$. We know that HALF the distance is 57 miles, so the whole distance is $57 \times 2 =$ $\boxed{114 \text{ mi}}$

6. We need to find Neil and Mitchell's hiking rates. Neil is 900 km per 15 days, so we get $900 \div 15 = 60$ km per day. Mitchell is 900 km per 12 days, so he is $900 \div 12 = 75$ km per day. Now we just have a regular chase problem. Neil left 2 days earlier than Mitchell, in which he travels 60 *km per day* $\times$ 2 *days* $= 120$ km. Say that Mitchell travels for d days to catch up to Neil. Neil will travel another $60d$ km (because $D = RT$, and our time here is d days), and Mitchell has to travel $75d$ km. Mitchell has to walk the 120 km Neil already travelled, plus the additional $60d$ km he is walking. So we set up an equation: $120 + 60d = 75d$. Subtract $60d$ from both sides and we get $120 = 15d$, so $d = 8$. So Mitchell travels for 8 days. Now we need the distance Mitchell has travelled: $D = 75 \times 8 =$ $\boxed{600 \text{ km}}$

7. $\boxed{4}$

8. $\boxed{20 \text{ kph}}$

9. Draw a quick sketch of the problem. Let's call the distance Benjamin travels x, and Alex has traveled 192 m. We don't know their rates, but we do know that Benjamin takes 5 hours to go the whole distance and Alex takes 10 hours. So we can use those times and pretend they are rates, since they are over equal distances. So we can set up an equation: $5x = 192 \times 10 = 1920$, which is the times each of the boys traveled times the distances they traveled. So we know $x = 384$, so the total distance is $384 + 192 =$ $\boxed{576 \text{ km}}$

10. $\boxed{30 \text{ min}}$