







5. Car A is traveling due West at  $50 \text{ mi/h}$  and car B is traveling due North at  $60 \text{ mi/h}$ . Both are headed for the intersection of the two roads. At what rate are the cars approaching each other when car A is  $0.3 \text{ mi}$  and car B is  $0.4 \text{ mi}$  from the intersection?

6. A man walks along a straight path at a speed of  $4 \text{ ft/s}$ . A searchlight is located on the ground  $20 \text{ ft}$  from the path and rotates to keep its focus on the man. At what rate is the searchlight rotating when the man is  $15 \text{ ft}$  from the point on the path closest to the searchlight?