**Movie Theater Equations**

1. Mr. Cowit owns the West Redding Movie Theater. He charges $5 per ticket and pays Ryan $10 per hour to take tickets, sell popcorn and clean the theater. Write an equation for his profit using *t* for the number of tickets sold, *h* for the number of hours Ryan works and *p* for the profit.
   1. If he sells 100 tickets and Ryan works 4 hours, what is Mr. Cowit’s profit?
   2. If he sells 150 tickets and Ryan works 3 hours, what is Mr. Cowit’s profit?
2. Mr. Cowit sold half of the theater to an investor, Mr. Powers, and has to split the profits evenly with him. Write the new profit equation.
   1. If he sells 200 tickets and Ryan works 5 hours, what is Mr. Cowit’s profit?
   2. If he sells 100 tickets and Ryan works 2 hours, what is Mr. Cowit’s profit?
3. Mr. Cowit hires Hunter to be his projectionist. Since Hunter is a member of the projectionist union, Mr. Cowit must pay him $100 a day. Write the new profit equation.
   1. If he sells 300 tickets, and Ryan and Hunter work 6 hours, what is Mr. Cowit’s profit?
   2. If he sells 250 tickets, and Ryan and Hunter work 5 hours, what is Mr. Cowit’s profit?
4. As the theater becomes more successful, Mr. Cowit hires Rita to work the concession stand and Bella to clean the theater and take tickets. Ryan now just sells the tickets. They all earn $10 an hour. Write a new profit equation in simplest terms.
   1. If he sells 400 tickets and Ryan, Rita, Bella and Hunter work 4 hours, what is Mr. Cowit’s profit?
   2. If he sells 300 tickets and Ryan, Rita, Bella and Hunter work 3 hours, what is Mr. Cowit’s profit?
5. Mr. Cowit creates new ticket prices, charging adults $7 per ticket and children $4 per ticket. Write the new profit equation using *a* for adult tickets and *c* for children’s tickets.
   1. If he sells 200 adult tickets and 300 children’s tickets, and Ryan, Rita, Bella and Hunter work 5 hours, what is Mr. Cowit’s profit?
   2. If he sells 400 adult tickets and 200 children’s tickets, and Ryan, Rita, Bella and Hunter work 6 hours, what is Mr. Cowit’s profit?
6. The West Redding Senior Citizens Council complains about the new pricing so Mr. Cowit adds a $5 ticket for seniors. Write the new profit equation using *a* for adult tickets, *s* for seniors’ tickets and *c* for children’s tickets.
   1. If he sells 300 adult tickets, 100 senior tickets and 200 children’s tickets, and Ryan, Rita, Bella and Hunter work 6 hours, what is Mr. Cowit’s profit?
   2. If he sells 500 adult tickets, 150 senior tickets and 250 children’s tickets, and Ryan, Rita, Bella and Hunter work 7 hours, what is Mr. Cowit’s profit?