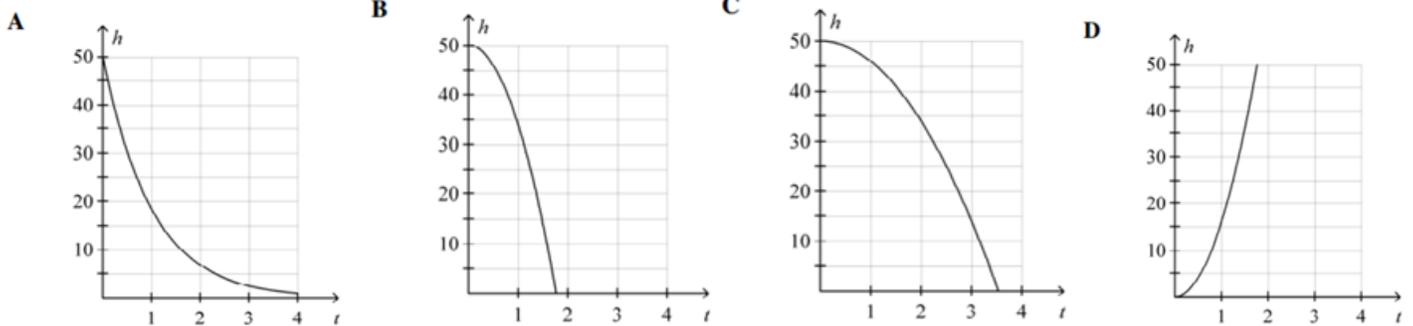


_____ 1. If an object is dropped from a height of 50 feet, the function $h(t) = -16t^2 + 50$ gives the height of the object after t seconds. Graph the function.



_____ 2. A ball is thrown into the air and its height h in feet after t seconds is given by the function $h = -16t^2 + 40t + 10$. Based on the equation, what was the initial height of the ball?

- A. -16 ft B) 40 ft C) 10 ft

_____ 3. A ball is thrown into the air and its height h in feet after t seconds is given by the function $h = -16t^2 + 40t + 10$. Based on the equation, what was the initial velocity of the ball?

- A. -16 ft/s B) 40 ft/s C) 10 ft/s

_____ 4. A ball is thrown into the air and its height h in feet after t seconds is given by the function $h = -16t^2 + 40t + 10$. In how many seconds does the ball reach its maximum height? Round to the nearest hundredth if necessary. What is the ball's maximum height?

- A) 1.25 s; 85 ft B) 1.25 s; 40 ft C) 2.5 s; 10 ft D) 1.25 s; 35 ft

_____ 5. A rocket is launched from atop a 58-foot cliff with an initial velocity of 141 ft/s. Substitute the values into the vertical motion formula $h = -16t^2 + v_0t + h_0$. Which equation is correct and how long the rocket will take to hit the ground after it is launched? Round to the nearest tenth of a second.

- A) $h = -16t^2 + 141t + 58$; 9.2 s C) $h = -16t^2 + 141t + 58$; 0.4 s
B) $h = -16t^2 + 58t + 141$; 0.4 s D) $h = -16t^2 + 58t + 141$; 9.2 s

_____ 6. Planners of a Broadway musical in New York City project income made based on the price of the tickets. The equation is $I = 120p(30 - p)$. What is the projected income if the price of the ticket is \$10?

- A) \$24,000 B) \$25,000 C) \$26,880 D) \$27,000

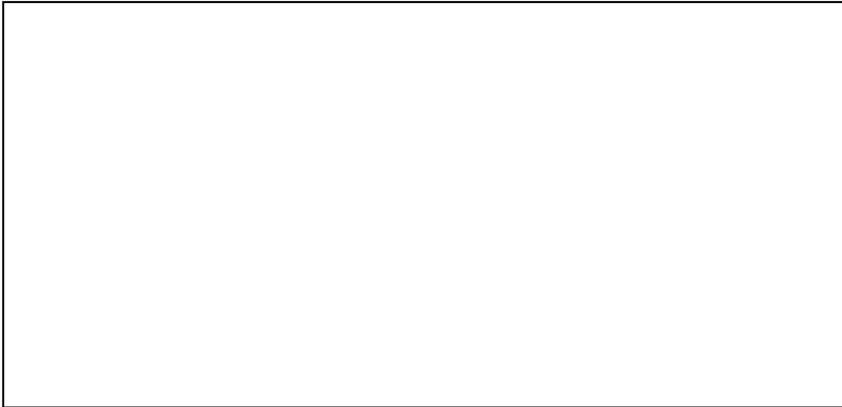
_____ 7. Planners of a Broadway musical in New York City project income made based on the price of the tickets. The function that describes this is $I(p) = 120p(30 - p)$. What is the maximum projected income?

- A) \$24,000 B) \$25,000 C) \$26,880 D) \$27,000

8. Planners of a Broadway musical in New York City project income made based on the price of the tickets. The function that describes this is $I(p)=120p(30 - p)$. What is the domain of this function?

- A) $0 \leq p \leq 15$ B) $0 \leq p \leq 30$ C) $0 \leq p \leq 24,000$ D) $0 \leq p \leq 27,000$

9. Planners of a Broadway musical in New York City project income made based on the price of the tickets. The function that describes this is $I(p)=120p(30 - p)$. They also have costs to put the musical on. The cost function is $C(p) = 15,000 - 50x$. Sketch this in the space below.

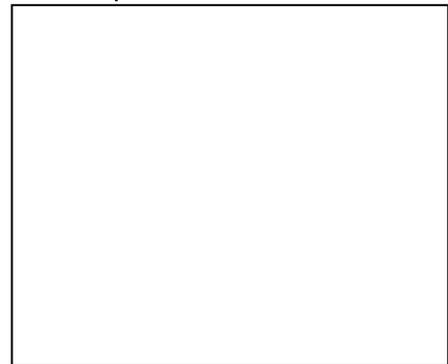
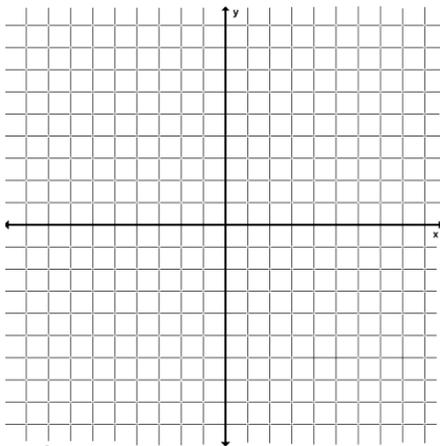


For what ticket price(s) were the income and costs are the same?

And

10. A. When costs and income are the same at that time we are not losing money nor making money, we are just _____.
- B. When income exceeds the costs at that time you are considered to be making a _____.

11. In the equation $f(x) = -2(x + 1)^2 + 4$, which part will make the parabola shift up



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or down?

- A. $()^2$ B. -2 in front C. + 1 D. + 4

12. Draw: $f(x) = -2(x + 1)^2 + 4$ →

13. Write the equation of the parabola shown:

Given the function $f(x) = 2x^2 + 8x - 24$

14. Find the axis of symmetry.



_____ 15. Find the y-intercept.

_____ 16. Convert to vertex form.

_____ 17. Find the vertex.

_____ 18. Is this a max or a min?

_____ 19. Convert to factored form.

_____ 20. Find the x-intercepts.

