Mary has a part-time job. She can work up to 30 hours a week. She gets paid $7.50 per hour. Let t represent the number of hours she works. Let P(t) represent her total pay.

1. Make a table giving t and P(t) every 5 hours from t = 0 to t = 30.

2. Graph function P.

t	P(t)
0	0
5	37.5
10	75
15	112.5
20	150
25	187.5
30	225
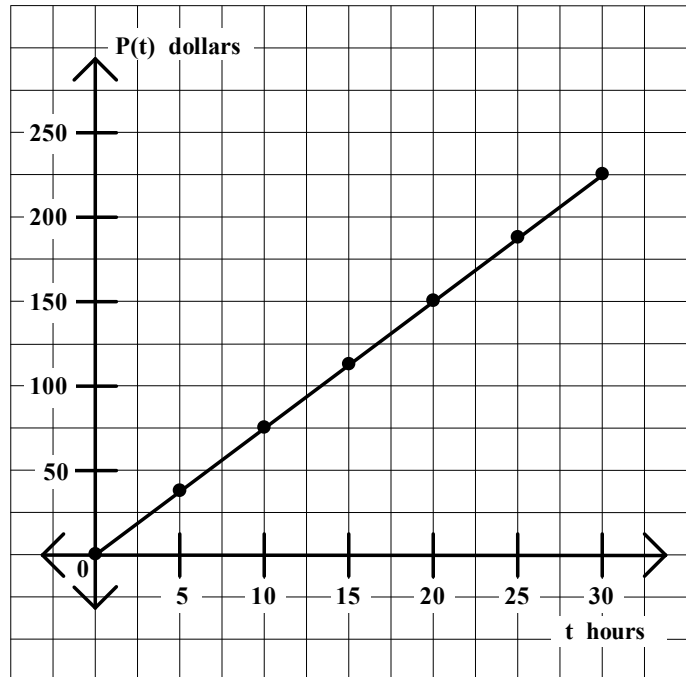
P(t) dollars

t hours

3. Write an equation giving P(t) in terms of t.   __P(t) = 7.5t__

4. What is the domain of function P?

__[0 , 30]__

5. What is the range of function P?

__[0 , 225]__

6. Evaluate P(12). What does P(12) represent in terms of the problem?

P(12) = 90 dollars. P(12) represents the pay Mary earns for 12 hours of work.

7. If P(t) = 30, then find the value of t. Describe what this value of t represents in terms of the problem.

t = 4 hours. This value of t represents the time Mary must work to earn $30.

Joe bikes from his house to his cousin's house, a distance of 18 miles, at a constant speed of 12 miles per hour. Let t represent the time in hours that Joe has been biking. Let D(t) represent the distance in miles that Joe is from his cousin's house.

22. Make a table giving t and D(t) every half hour from t = 0 until Joe reaches his cousin's house.

t	D(t)
0	18
0.5	12
1	6
1.5	0

23. Graph function D.
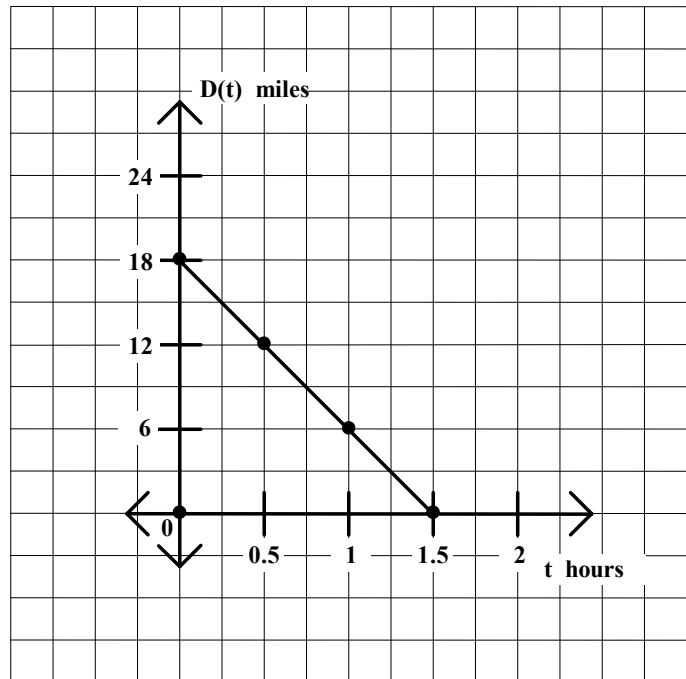
24. Write an equation giving D(t) in terms of t.   D(t) = -12t + 18

25. What is the domain of function D?

[0 , 1.5]

26. What is the range of function D?

[0 , 18]

27. Evaluate D(0.5). What does D(0.5) represent in terms of the problem?

D(0.5) = 12 miles. D(0.5) represents the distance Joe is from his cousin's house after biking for ½ hour.

28. If D(t) = 9, then find the value of t. Describe what this value of t represents in terms of the problem.

t = 0.75 hours. This value of t represents the time it takes Joe to be 9 miles from his cousin's house.