

Practice 4

For use with Section 1-4

Find the break-even point of each pair of equations. Round decimal answers to the nearest tenth.

1. $E = 26 + 3.2x$
 $I = 4.5x$

2. $E = 225 + 1.8x$
 $I = 6.3x$

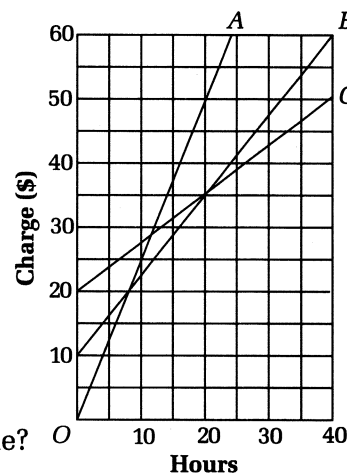
3. $E = 90 + 0.6x$
 $I = 4.2x$

4. $E = 7.5 + 1.9x$
 $I = 8.0x$

5. $E = 145 + 22.5x$
 $I = 44.5x$

6. $E = 16 + 3.4x$
 $I = 7.2x$

Tomorrow, Inc. (TI) and Technologies Unlimited (TU) both charge a flat monthly fee to connect users to a global computer network, and both companies charge an hourly rate for a user's connect time, but TI's flat fee is higher. Info Services (IS) charges no flat fee, only an hourly rate. Use the graph at the right for Exercises 7–14.



For Exercises 7–9, choose the letter of the graph that models each service.

7. TI 8. TU 9. IS

10. Estimate the flat fee for TU.

11. Which company charges the highest hourly rate for connect time? How do you know?

For what range of hours of connect time is each company cheapest?

12. TI 13. TU 14. IS

15. Urmila bought a \$350 lawn mower to use for her after-school lawn-mowing business. She estimates that fuel and maintenance on the mower will cost about \$2.25 per hour of mowing.

- a. Write an expense equation that models this situation. Let t = number of hours mowing.
- b. Urmila charges \$12.50 per hour for mowing lawns. Write an income equation that models this situation.
- c. Urmila averages 7 hours of mowing per week. How many weeks will it take her to break even?