Linear systems in real life: reading graphs worksheet – Grade 10

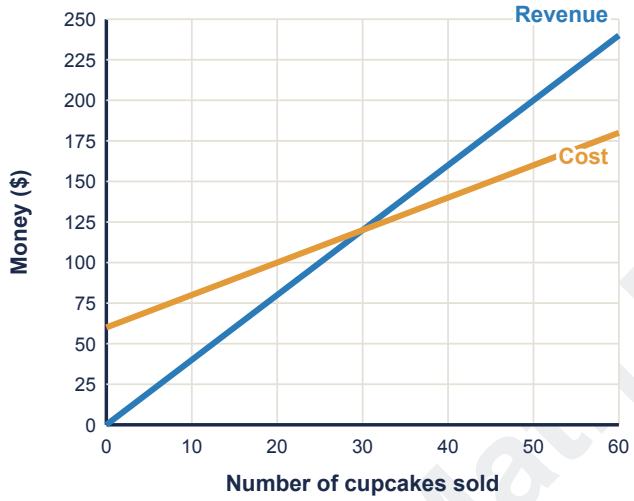
Grade 10 · Mixed level · 20 questions · **Version X2145**

Name: _____ Date: _____ Score: ___ / 20

Scan to check answers + earn stars

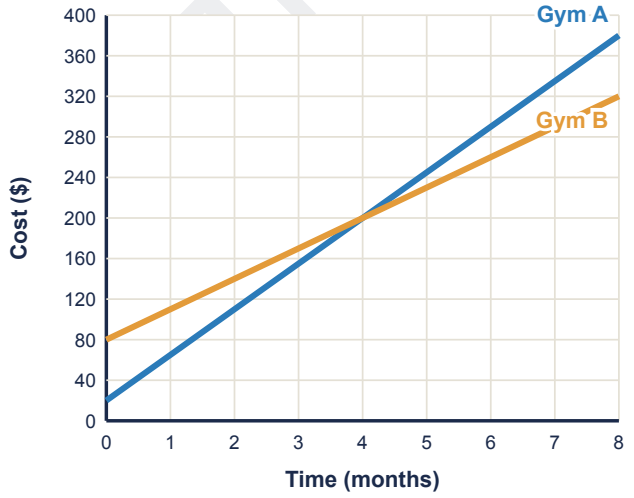
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1. A bake-sale team sells cupcakes. The graph shows its cost and its revenue. How many cupcakes must it sell to break even?



Answer: _____

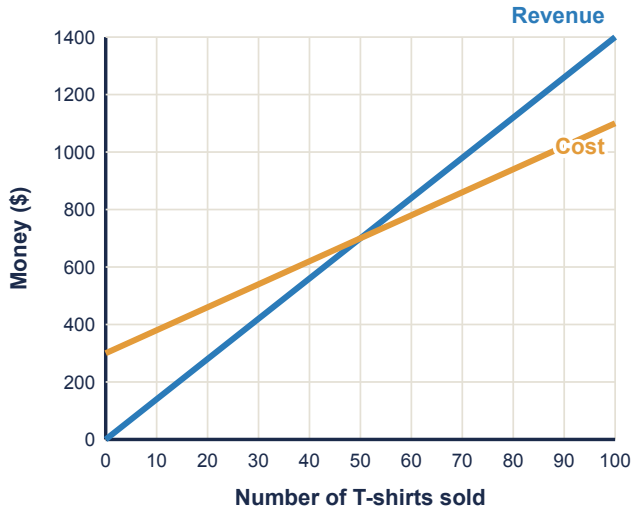
2. The graph compares gym memberships. For how many months do the two cost the same? (months)



Answer: _____

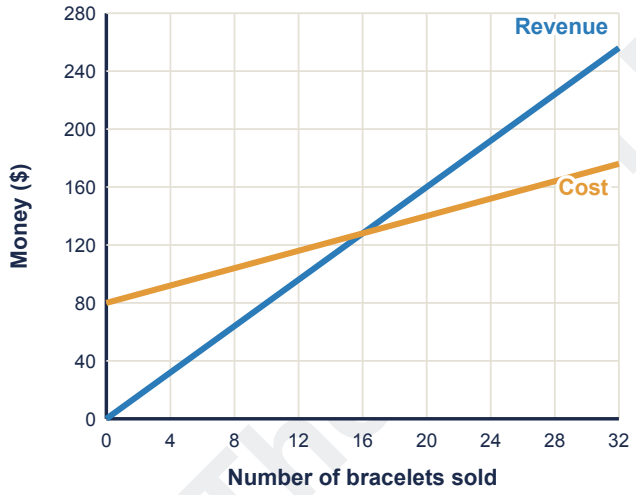
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3. A small business sells T-shirts. The graph shows its cost and its revenue. How many T-shirts must it sell to break even?



Answer: _____

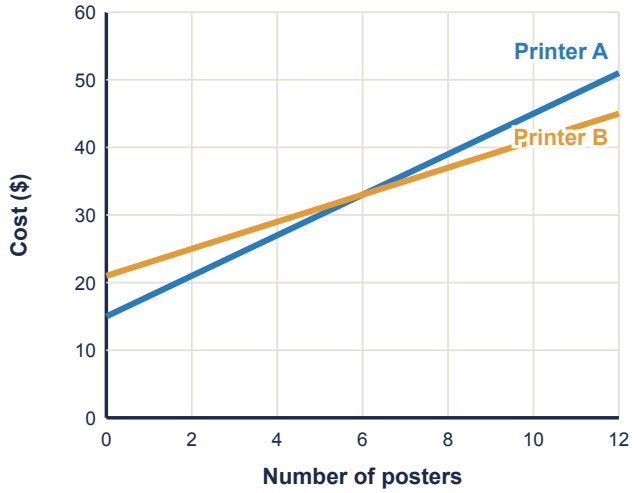
4. A student club sells bracelets. The graph shows its cost and its revenue. How many bracelets must it sell to break even?



Answer: _____

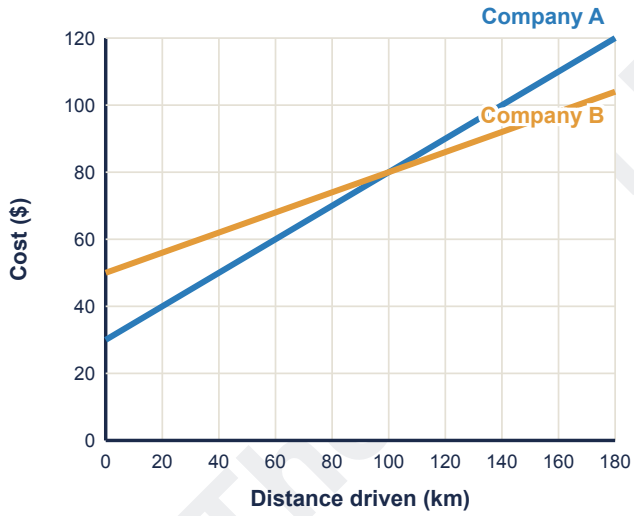
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5. The graph compares poster printing. For how many posters do the two cost the same? (posters)



Answer: _____

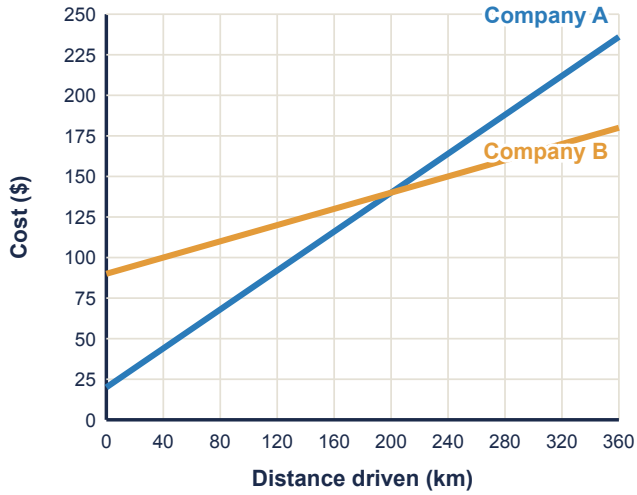
6. The graph compares car rentals for one day. For how many km do the two cost the same? (km)



Answer: _____ km

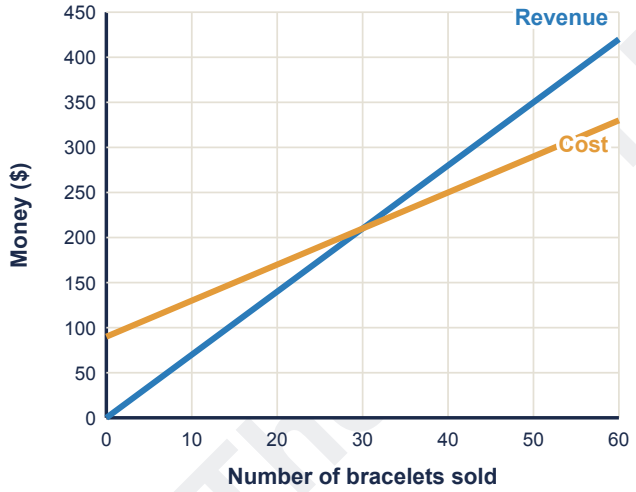
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7. The graph compares car rentals for one day. For how many km do the two cost the same? (km)



Answer: _____ km

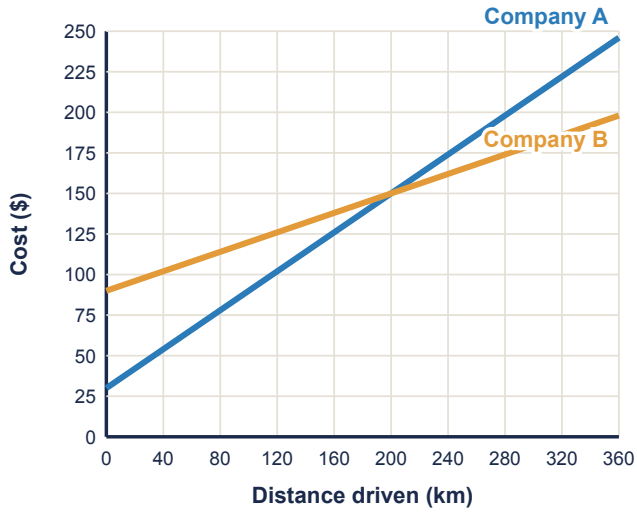
8. A student club sells bracelets: its cost is $C = 90 + 4n$ and its revenue is $R = 7n$, as shown on the graph. What is the profit if it sells 15? (dollars; a loss is a negative number)



Answer: _____

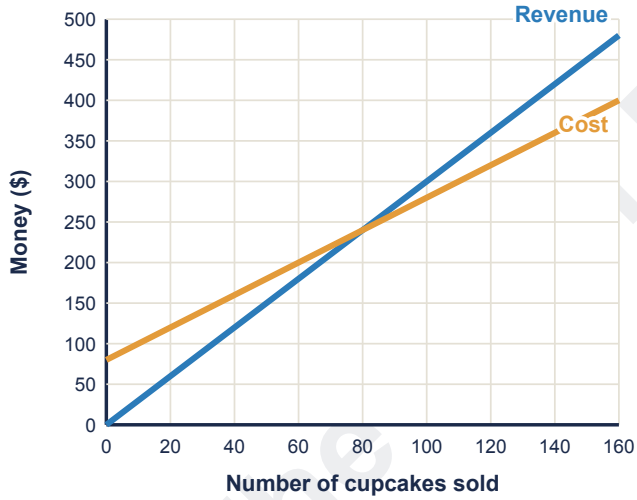
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9. The graph compares car rentals for one day. Which is cheaper for 300 km?



A. Company A **B.** Company B **C.** They cost the same

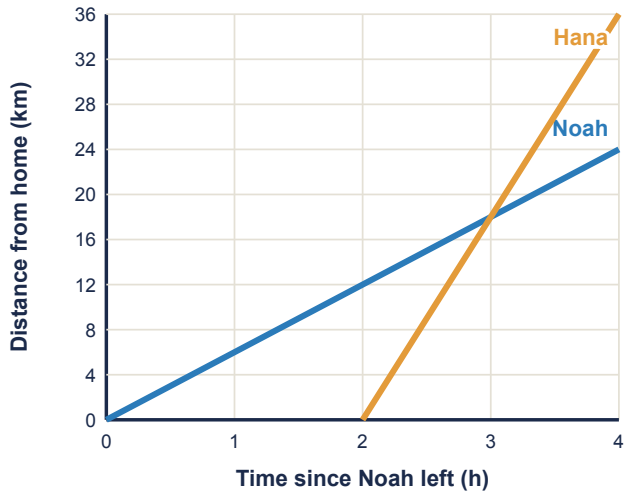
10. A bake-sale team sells cupcakes: its cost is $C = 80 + 2n$ and its revenue is $R = 3n$, as shown on the graph. What is the profit if it sells 160? (dollars; a loss is a negative number)



Answer: _____

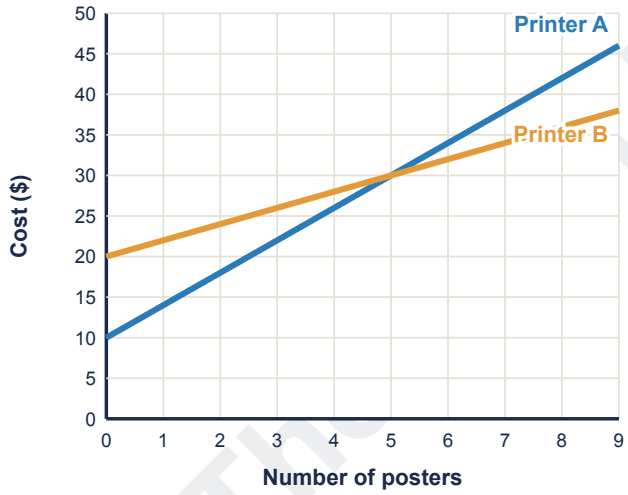
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11. Noah leaves home walking at a steady speed. Hana leaves the same place 2 h later on a bike, along the same path. After how many hours (from when Noah left) does Hana catch up? (hours)



Answer: _____ hours

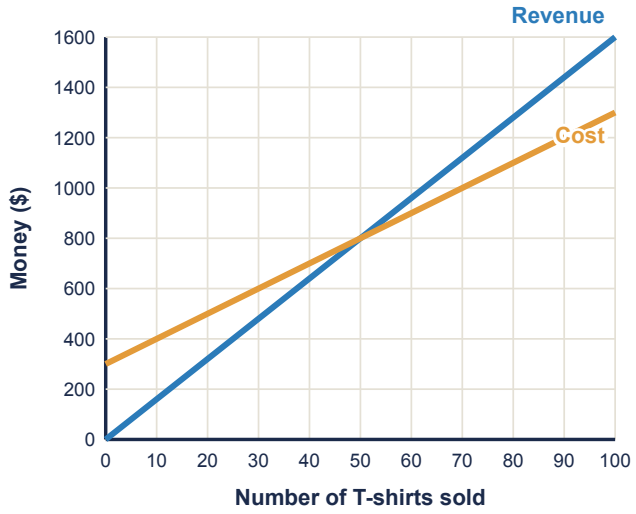
12. The graph compares poster printing. Which is cheaper for 8 posters?



A. Printer A **B.** Printer B **C.** They cost the same

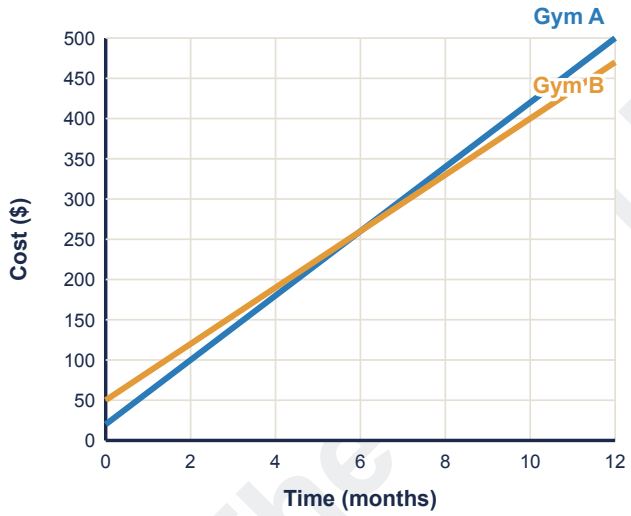
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13. A small business sells T-shirts: its cost is $C = 300 + 10n$ and its revenue is $R = 16n$, as shown on the graph. What is the profit if it sells 25? (dollars; a loss is a negative number)



Answer: _____

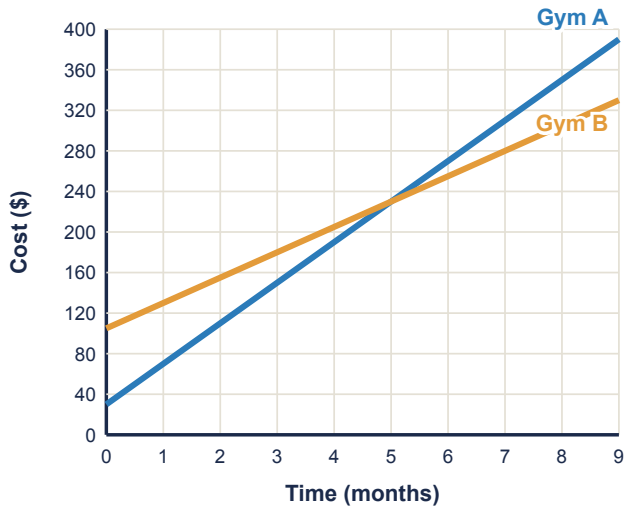
14. The graph compares gym memberships. Which is cheaper for 9 months?



A. Gym A **B.** Gym B **C.** They cost the same

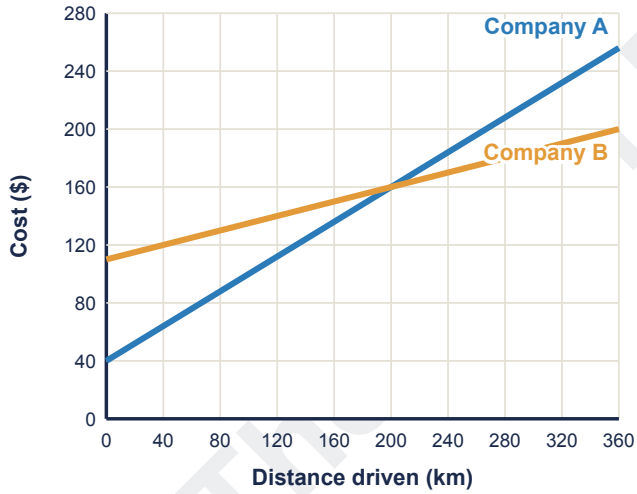
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15. Gym A charges a joining fee of $\$30$ plus $\$40$ per month. Gym B charges a joining fee of $\$105$ plus $\$25$ per month. Solve the system to find when they cost the same. (months)



Answer: _____

16. The graph compares car rentals for one day (C is the cost and n is the number of km). Which system of equations matches the graph?



A. $C = 0.6n + 110$ and $C = 0.25n + 40$

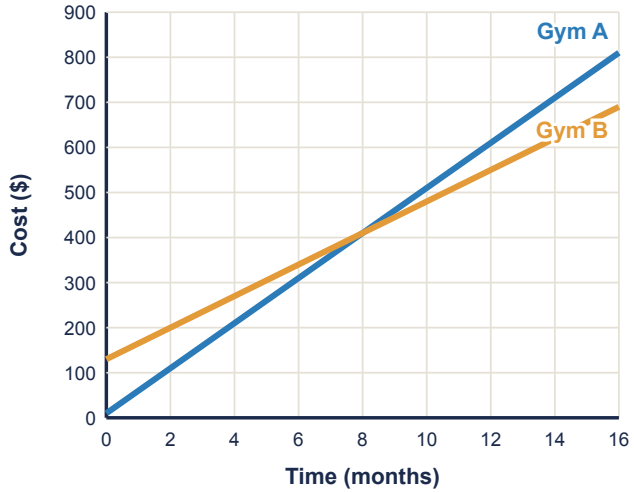
B. $C = 0.6n + 50$ and $C = 0.25n + 110$

C. $C = 0.25n + 40$ and $C = 0.6n + 110$

D. $C = 0.6n + 40$ and $C = 0.25n + 110$

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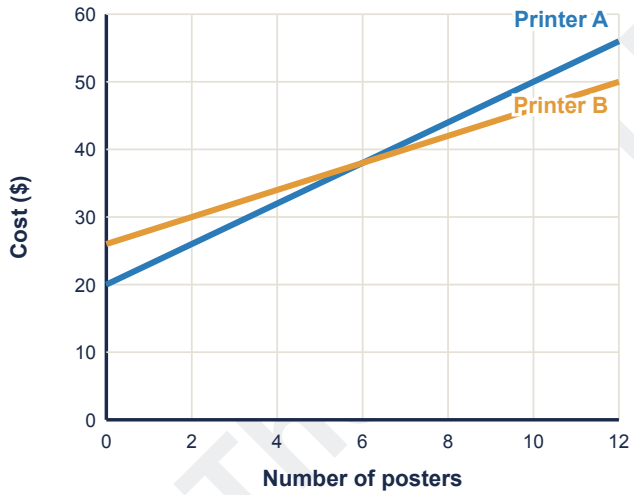
17. The graph compares gym memberships (C is the cost and n is the number of months). Which system of equations matches the graph?



A. $C = 50n + 20$ and $C = 35n + 130$ **B.** $C = 50n + 130$ and $C = 35n + 10$

C. $C = 50n + 10$ and $C = 35n + 130$ **D.** $C = 35n + 10$ and $C = 50n + 130$

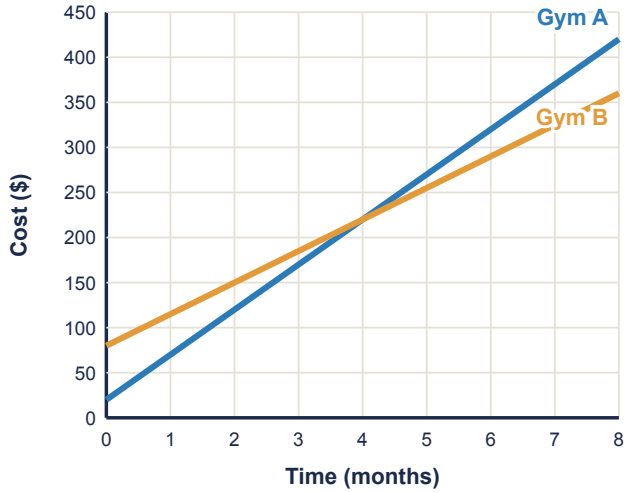
18. The graph compares poster printing. For which amounts is Printer B cheaper?



A. Never **B.** Exactly 6 posters **C.** More than 6 posters **D.** Fewer than 6 posters

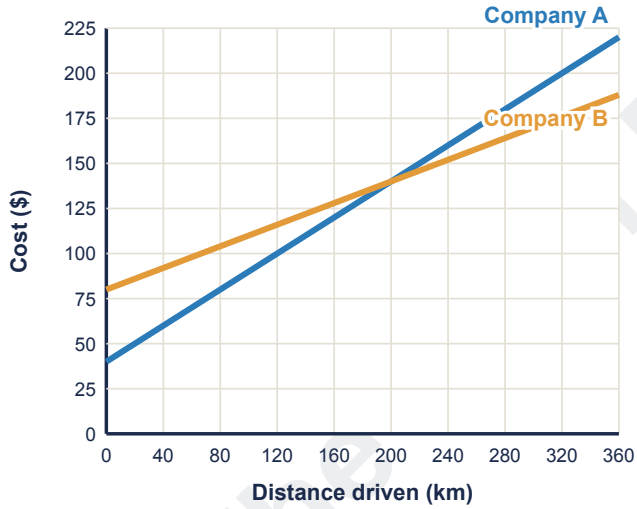
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19. The graph compares gym memberships. For which amounts is Gym B cheaper?



A. Exactly 4 months **B.** Fewer than 4 months **C.** More than 4 months **D.** Never

20. Company A charges a daily fee of $\$40$ plus $\$0.5$ per km. Company B charges a daily fee of $\$80$ plus $\$0.3$ per km. Solve the system to find when they cost the same. (km)



Answer: _____ km

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Answer key · Version X2145

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1. **30**
2. **4**
3. **50**
4. **16**
5. **6**
6. **100**
7. **200**
8. **-45**
9. **B (Company B)**
10. **80**
11. **3**
12. **B (Printer B)**
13. **-150**
14. **B (Gym B)**
15. **5**
16. **D (**$C = 0.6n + 40$ **and** $C = 0.25n + 110$**)**
17. **C (**$C = 50n + 10$ **and** $C = 35n + 130$**)**
18. **C (More than 6 posters)**
19. **C (More than 4 months)**
20. **200**

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