

Homework 23.2

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Find each product.

1) $(6k - 7)(-7k + 5)$

$$\begin{array}{r}
 6k(-7k) + 6k(5) - 7(-7k) - 7(5) \\
 -42k^2 + \underline{30k} + 49k - 35 \\
 -42k^2 + 79k - 35
 \end{array}$$

2) $(6x + 8)(-5x + 6)$

$$\begin{array}{r}
 6x(-5x) + 6x(6) + 8(-5x) + 8(6) \\
 -30x^2 + \underline{36x} - 40x + 48 \\
 -30x^2 - 4x + 48
 \end{array}$$

3) $(-7a + 5)(-6a + 2)$

$$\begin{array}{r}
 -7a(-6a) - 7a(2) + 5(-6a) + 5(2) \\
 42a^2 - \underline{14a} - 30a + 10 \\
 42a^2 - 44a + 10
 \end{array}$$

4) $(7p + 7)^2$

$$\begin{array}{r}
 (7p+7)(7p+7) \\
 7p(7p) + 7p(7) + 7(7p) + 7(7) \\
 49p^2 + \underline{49p} + 49p + 49 \\
 49p^2 + 98p + 49
 \end{array}$$

5) $(2x - 4)^2$

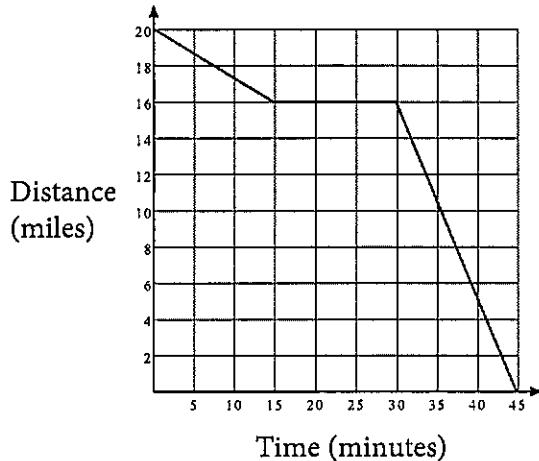
$$\begin{array}{r}
 (2x-4)(2x-4) \\
 2x(2x) + 2x(-4) - 4(2x) - 4(-4) \\
 4x^2 - \underline{8x} - 8x + 16 \\
 4x^2 - 16x + 16
 \end{array}$$

6) $(5a - 8)^2$

$$\begin{array}{r}
 (5a-8)(5a-8) \\
 5a(5a) + 5a(-8) - 8(5a) - 8(-8) \\
 25a^2 - \underline{40a} - 40a + 64 \\
 25a^2 - 80a + 64
 \end{array}$$

Tim rode his bicycle home from work. The graph below shows Tim's distance from home over time.

Tim's Bicycle Ride Home



- 7) On what time interval is Tim stopped?

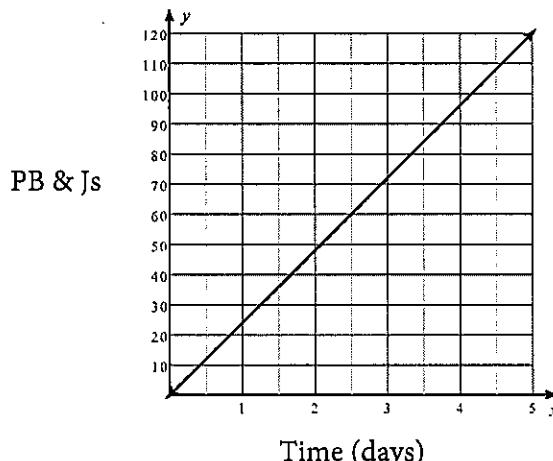
15 min to 30 min

- 8) On what time interval is Tim traveling the fastest?

30 min to 45 min

The graph below represents the total number of times a PB&J is eaten at an elementary school over a 5 - day period.

PB&Js Eaten



- 9) What is the slope of this line segment?

Include the appropriate units in your answer.

$$\frac{120 \text{ PB+J's}}{5 \text{ days}} = 24 \text{ PB+J's/day}$$

- 10) Write an equation that represents the total number of PB&Js, P, are sent after, d, days.

$$P = 24d$$

- 11) If this trend continues, how many PB&Js will be eaten in 10 days?

$$\begin{aligned} P &= 24(10) \\ &= 240 \text{ PB+J's} \end{aligned}$$

Answers to Homework 23.2

- 1) $-42k^2 + 79k - 35$ 2) $-30x^2 - 4x + 48$ 3) $42a^2 - 44a + 10$ 4) $49p^2 + 98p + 49$
5) $4x^2 - 16x + 16$ 6) $25a^2 - 80a + 64$
- 7) 15 minutes to 30 minutes 8) 30 minutes to 45 minutes 9) $\frac{24}{1}$ PB&Js per Day
10) $P = 24d$ 11) 240 PB&Js