# Match Mates Piecewise Functions Activity Templates
Victoria Landers

E4

$f(x)=$

$$\begin{cases} 16x, & 0 \le x \le 5 \\ -80x+480, & 5 \le x \le 6 \end{cases}$$

E5

$f(x)=$

$$\begin{cases} 0, & 0 \le x \le 2 \\ 10x-20, & 2 \le x \le 10 \end{cases}$$

E6

$f(x)=$

$$\begin{cases} -\dfrac{20}{3}x+70, & 0 \le x \le 6 \\ 30, & 6 \le x \le 10 \end{cases}$$

E3

$f(x)=$

$$\begin{cases} 15x, & 0 \le x \le 2 \\ 30, & 2 \le x \le 4 \\ 10x-10, & 4 \le x \le 7 \\ -\dfrac{40}{3}x+\dfrac{460}{3}, & 7 \le x \le 10 \end{cases}$$

E10

$f(x)=$

$$\begin{cases} 30x, & 0 \le x \le 2 \\ -15x+90, & 2 \le x \le 4 \\ 30x-90, & 4 \le x \le 6 \\ 90, & 6 \le x \le 10 \end{cases}$$

E7

$f(x)=$

$$\begin{cases} 20, & 0 \le x \le 4 \\ \dfrac{15}{2}x-10, & 4 \le x \le 8 \\ -25x-250, & 8 \le x \le 10 \end{cases}$$

E2

f(x)=

$$\begin{cases} 70, & 0 \le x \le 7 \\ -10x+140, & 7 \le x \le 8 \\ 60, & 8 \le x \le 10 \end{cases}$$

E9

f(x)=

$$\begin{cases} 10x, & 0 \le x \le 1 \\ 10, & 1 \le x \le 2 \\ -10x+30, & 2 \le x \le 3 \\ 0, & 3 \le x \le 4 \\ 10x-40, & 4 \le x \le 5 \\ -10x+60, & 5 \le x \le 6 \\ 0, & 7 \le x \le 10 \end{cases}$$

E8

f(x)=

$$\begin{cases} 15x, & 0 \le x \le 2 \\ 30, & 2 \le x \le 4 \\ 15x-30, & 4 \le x \le 6 \\ -\dfrac{15}{2}x+105, & 6 \le x \le 10 \end{cases}$$

E1

f(x)=

$$\begin{cases} 0, & 0 \le x \le 2 \\ \dfrac{45}{2}x-45, & 2 \le x \le 6 \\ -\dfrac{5}{2}x+105, & 6 \le x \le 10 \end{cases}$$

D8

After 5 minutes of climbing at a constant rate, Bobby's plane malfunctioned and crashed to the ground.

D5

After two minutes, Susan's plane took off at a rate of 10 feet per minute.

D6

After letting his plane drop 40 feet in six minutes, tom maintained the plane at a steady height for the rest of the flight.

D10

After elevating 30 feet in 2 minutes, Steve maintained his plane the same height for two more minutes before elevating it at a slower rate before he brought his plane in for a landing.

D7

After rising and falling for 6 minutes, Lynn's plane reached the highest altitude and maintained it the next few minutes.

D3

Mary's plane maintained a constant altitude for 4 minutes, it then rose thirty more feet before stalling the engine, but she was able to glide it safely to the ground.

D2

After Juan kept his plane at a steady altitude for 7 minutes, he decided to bring it down to 60 feet for the rest of the trip.

D9

Albert's plane got airborne for three minutes before it came down. After he fixed the rudder, the plane could only stay in the air for a few more minutes before Albert decided to quit.

D4

After elevating for 2 minutes, Jerry maintained his plane the same height for two more minutes before elevating it at the same rate as when he started before he brought his plane in for a landing.

D1

Bob's plane taxied on the ground for 2 minutes before it finally rose to a height of 90 feet but he couldn't maintain the altitude.

T1

| x | 1 | 2 | 3 | 4 | 5 | 6 | 10 |
|---|----|----|---|---|----|---|----|
| y | 10 | 10 | 0 | 0 | 10 | 0 | 0 |

T2

| x | 0 | 1 | 2 | 4 | 6 | 7 | 10 |
|---|---|----|----|----|----|----|----|
| y | 0 | 15 | 30 | 30 | 50 | 60 | 20 |

T3

| x | 0 | 1 | 2 | 4 | 6 | 8 | 10 |
|---|---|----|----|----|----|----|----|
| y | 0 | 30 | 60 | 30 | 90 | 90 | 90 |

T4

| x | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|----|----|----|----|----|---|
| y | 0 | 16 | 32 | 48 | 64 | 80 | 0 |

**T5**

| x | 0 | 1 | 2 | 4 | 6 | 8 | 10 |
|---|---|---|---|---|---|---|---|
| y | 20 | 20 | 20 | 20 | 35 | 50 | 0 |

**T6**

| x | 0 | 1 | 2 | 4 | 6 | 8 | 10 |
|---|---|---|---|---|---|---|---|
| y | 0 | 15 | 30 | 30 | 60 | 45 | 30 |

**T7**

| x | 0 | 1 | 2 | 4 | 6 | 8 | 10 |
|---|---|---|---|---|---|---|---|
| y | 0 | 0 | 0 | 20 | 40 | 60 | 80 |

**T8**

| x | 0 | 3 | 6 | 9 | 12 | 15 | 18 |
|---|---|---|---|---|---|---|---|
| y | 70 | 50 | 30 | 30 | 30 | 30 | 30 |

**T9**

| x | 0 | 1 | 2 | 4 | 6 | 8 | 10 |
|---|---|---|---|---|---|---|---|
| y | 0 | 0 | 0 | 45 | 90 | 85 | 80 |

**T10**

| x | 0 | 4 | 5 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|
| y | 70 | 70 | 70 | 70 | 60 | 60 | 60 |

G1

10

1

G2

10

1

G3

10

1

G4

10

1

G5

10

1

G6

10

1

**G7**

**10**

**1**

**G8**

**10**

**1**

**G9**

**10**

**1**

**G10**

**10**

**1**

**10**

**1**

**10**

**1**
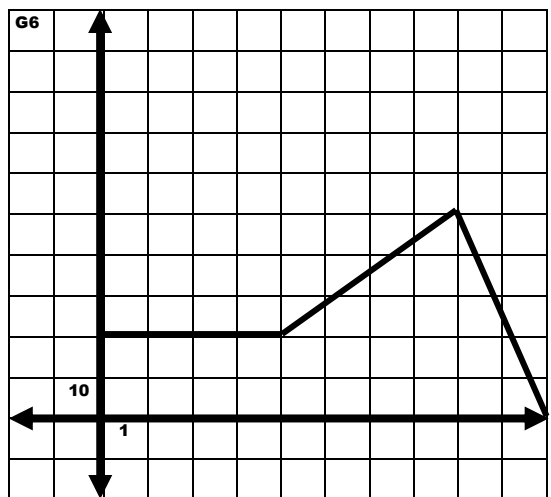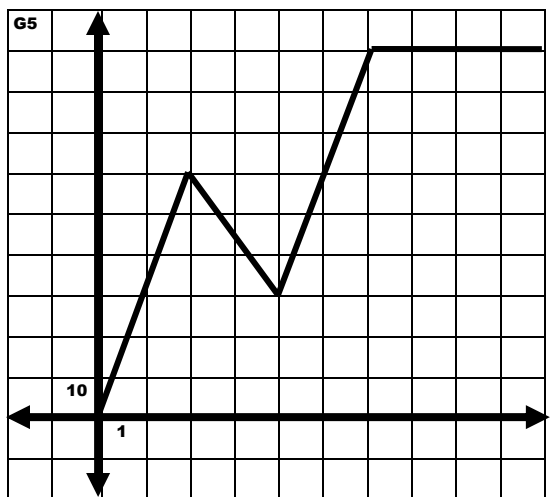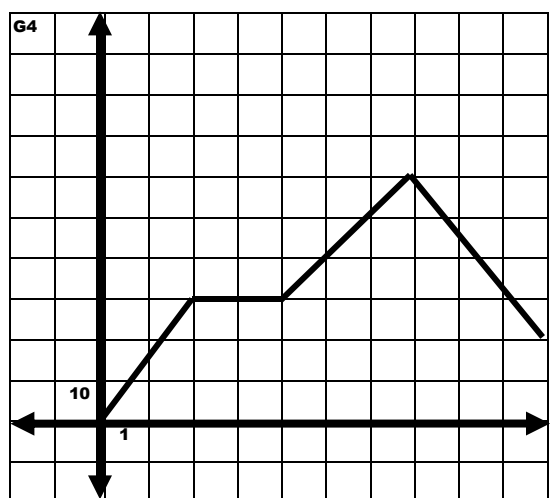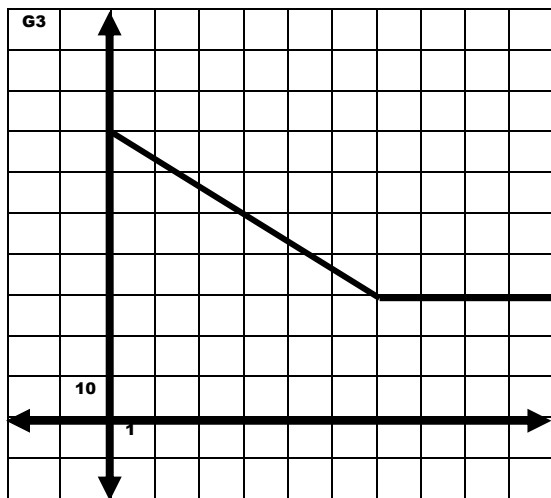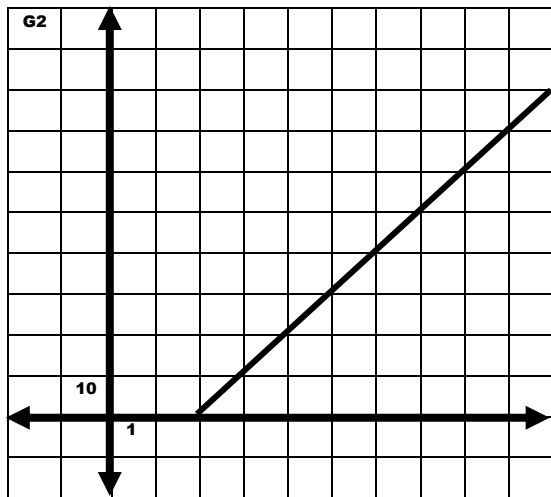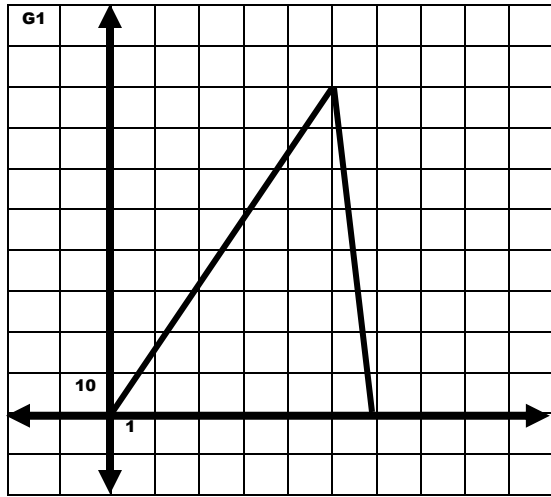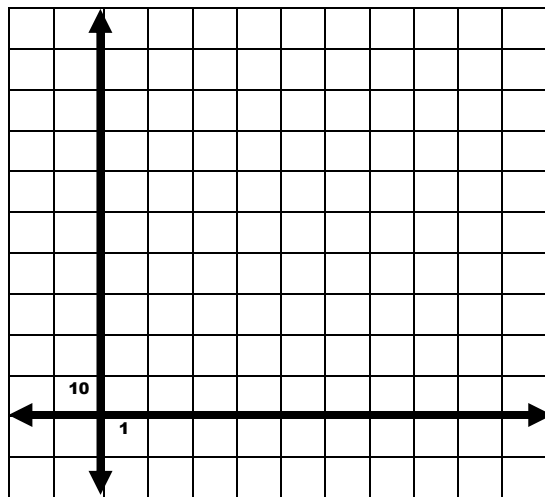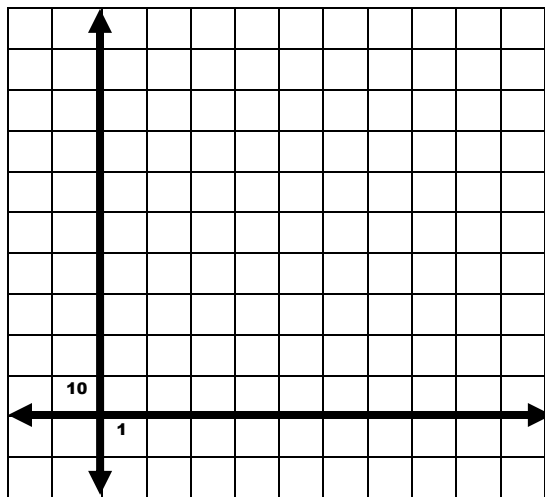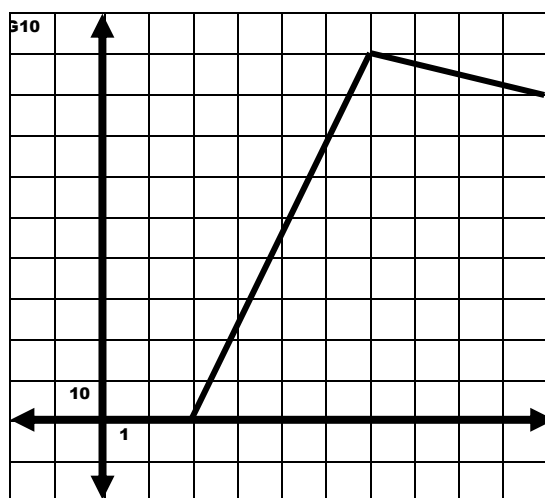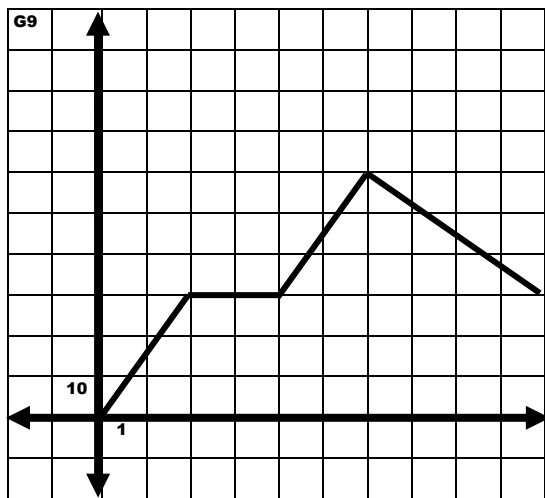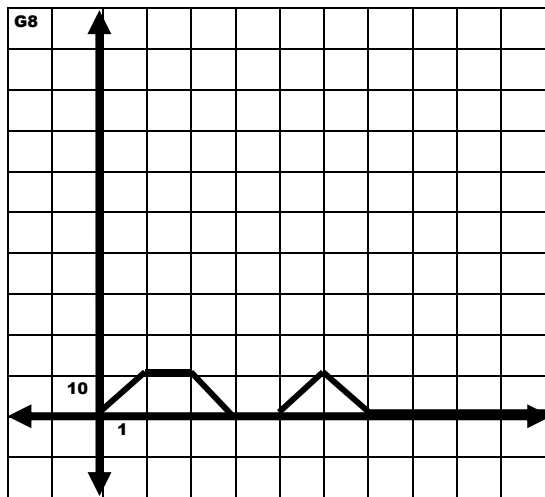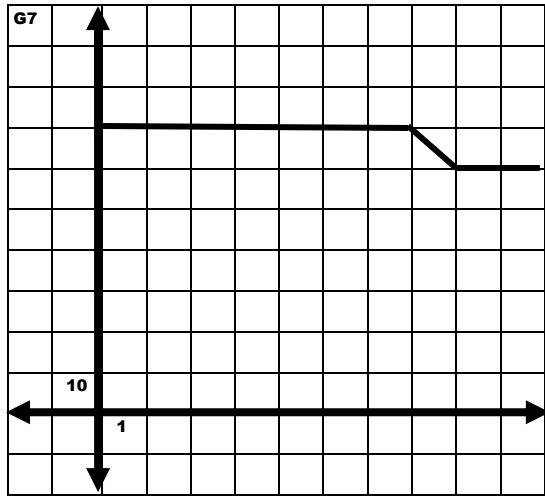
| Graph | Description | Table | Equation |
|---|---|---|---|
| **G1** | | | |
| **G2** | | | |
| **G3** | | | |
| **G4** | | | |
| **G5** | | | |
| **G6** | | | |
| **G7** | | | |
| **G8** | | | |
| **G9** | | | |
| **G10** | | | |

# Match Mates Piecewise Functions Activity Key

| Graph | Description | Table | Equation |
|-------|-------------|-------|----------|
| G1 | D8 | T4 | E4 |
| G2 | D5 | T7 | E5 |
| G3 | D6 | T8 | E6 |
| G4 | D10 | T2 | E3 |
| G5 | D7 | T3 | E10 |
| G6 | D3 | T5 | E7 |
| G7 | D2 | T10 | E2 |
| G8 | D9 | T1 | E9 |
| G9 | D4 | T6 | E8 |
| G10 | D1 | T9 | E1 |