

Day 2 - Real World Y-intercepts - Practice

1. The function $f(t) = 1.90 + 1.40t$ shows the cost of a hamburger with different numbers of toppings. What is the y-intercept and what does it mean?

1.90 → starting price for a hamburger with no toppings

2. The function $f(t) = 5 + 1.75t$ show the cost to attend the state fair if you ride t rides. What is the y-intercept and what does it mean?

5 → it costs \$5 to get into the fair without riding any rides

3. How much was admission to the carnival?

| Number of Carnival Ride Tickets | Cost (dollars) |
|---------------------------------|----------------|
| 0 | 6 |
| 4 | 9 |
| 8 | 12 |
| 16 | 18 |
| 32 | 30 |

It costs \$6 to get into the fair.

4. Emma pays a fixed fee plus an hourly rate to rent a boat. The table below shows how much Emma paid for the boat. How much was the fixed fee?

| Dionne's Boat Rental | | | | | | |
|----------------------|----|------|------|------|------|------|
| Hours Rented | 1 | 2 | 3 | 4 | 5 | |
| Amount Paid | 15 | \$27 | \$39 | \$51 | \$63 | \$75 |

The fixed fee was \$15.

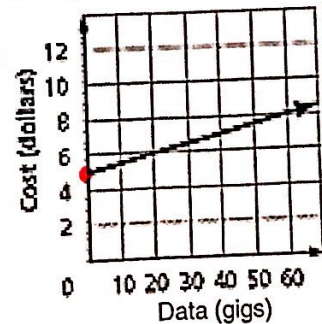
-12 +12

5. Tara pays a base rate for her cell phone plan plus a charge for each gig of data used. The graph below shows what she would pay for the first 60 gigs. What does the y-intercept represent?

(0, 5)

She pays a base rate of \$5 for her cell phone.

Long Distance Service



6. Josh received a gift card to the local movie theater. After going to 2 movies, the balance of her gift card dropped to \$64. After going to 3 more movies, the balance of her gift card dropped to \$40 remaining. What was her original gift card balance? Express your answer in real world terms and as a y-intercept.

| | | |
|----------|-----------|------|
| 0 | \$80 | |
| 1 | \$72 | ↑ +8 |
| 2 movies | \$64 left | ↑ +8 |
| 3 | \$56 | ↓ -8 |
| 4 | \$48 | ↓ -8 |
| 5 movies | \$40 left | |

$$\frac{64-40}{5-2} = \frac{\$24}{3} = \$8 \text{ per movie}$$

The card had \$80 to begin with.

(0, 80)

7. Shea is saving her money to buy a bike. When she added one week's worth of allowance to her savings, she had \$125. Three weeks later, she added money to her savings and now had \$161 towards the cost of the bike. Determine and explain what the y-intercept represents in the problem situation.

| | | |
|---------|-------|-------|
| 0 | \$113 | |
| 1 week | \$125 | ↑ +12 |
| 2 | | |
| 3 | | |
| 4 weeks | \$161 | |

$$\frac{161-125}{4-1} = \frac{36}{3} = \frac{\$12}{1 \text{ week}}$$

She started saving with \$113.