Problem 1

Jaden spent the entire day at the beach this past weekend and rented a large umbrella from 11:30am - 4:30pm. It cost a total of $35.75. How much did it cost to rent the umbrella per hour?

(A) $13.97/hr

(B) $7.15/hr ✓

(C) $8.94/hr → $\frac{\$8.94}{1hr}$

(D) $40/hr X

Questions to think about:

1. • What information may be relevant to the problem?
2. • Which word from the question, "How much did it cost per hour" helps us in determining which math operation we need to do?
3. • Which operation do we need to do to solve this problem?
4. • Can we eliminate any of the answer options? Why?

1. 1130A - 430P (5 hours), $35.75, "per hour" $$ "cost per time"

2./3. "Per" → Division (fraction)

*recall: percent → per cent → per 100

75% → $\frac{75}{100}$

[* X is 5 times 20
X = 5 * 20]

4. Option D → Doesn't make sense (too large)

$\frac{35.75}{5} = \frac{\text{Total cost}}{\#\text{hours}} = \$7.15$

[Answer: $7.15/hour]

Topics to review

- Intro to Pythagorean Theorem (video)

Problem 2 $a^2 + b^2 = c^2$

Suppose that a right-triangle has 2 sides with lengths 3ft and 4ft. The unknown side length is the hypotenuse. What is the perimeter of the triangle?

Ⓐ 25ft ✗ Ⓒ 5ft

✓Ⓑ 12ft ✗ Ⓓ 7ft

Questions to think about:

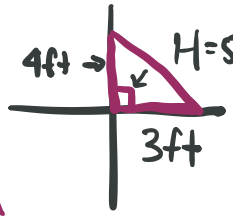
1 • What information may be relevant to the problem?

2 • Which math operation do we need to do to find the perimeter?

3 • Do we need the length of the missing side? If so, how can we find it?

4 • Can we eliminate any of the answer options? Why?

1. Right-triangle "Triangles that have a 90° angle"



• 2 side lengths given: 3ft and 4ft

• Pyth. Theorem: $a^2+b^2=c^2$

→ (side #1)^2 + (side #2)^2 = (Hyp.)^2

2. Addition → add up the lengths of all 3 sides

3. Side 1 = 4ft, Side 2 = 3ft

$(4)^2 + (3)^2 = H^2$

$16 + 9 = H^2$

$25 = H^2$

$\sqrt{25} = \sqrt{H^2} = H = 5$

*Squaring numbers

$4^2 = 4 \cdot 4 = 16$

$\sqrt{25} = \sqrt{H^2} = \sqrt{H \cdot H}$

$5 = H$ (Missing side) * square root

Side 1 = 3 ft, side #2 = 4ft, Hyp = 5 ft

4. Perimeter -> side 1 + side 2 + Hyp

$3 + 4 + H$

$7 + H$

* Any answer option less than or equal to 7 can be eliminated.

Topics to review

- Writing an inequality (video)

Problem 3

Kayla is planning a business meeting for her company. She has a budget of $975 for renting a meeting room and providing lunch. She expects 12 people to attend. The cost of renting the room is $170. Create an inequality that shows how to find the amount, x, Kayla can spend on lunch for each person.

✓ (A) $12x + 170 \leq 975$

(C) $12 + x + 170 \leq 975$

X (B) $12x + 170 \geq 975$

(D) $12x - 170 \leq 975$

Questions to think about:

1 • What information may be relevant to the problem?

2 • What are the different inequality symbols?

3 • Do we need to solve for x in this problem?

4 • Can we eliminate any of the answer options? Why?

1. • Budget → Max amount of $
   ↓
   $975 * Kayla can spend $975 or less
   - $170 for the room, 12 lunches
   - x - cost per lunch

2. "Greater than" > 7 > 2
   "Less than" < 2 < 7
   "Greater than or equal to" ≥ $12x \geq 24$

└ "Less than or equal to" $\leq$

3. No

4. The amount of $ spent for the room + lunch must be less than or equal to $975. $\Rightarrow$ Option B is invalid

LHS: Total $ for room + lunch

RHS: Budget

$LHS \leq RHS$

$$\text{lunches} + \text{room} \leq \text{budget}$$

$$12 \cdot x + 170 \leq 975$$

Problem 4

Dominic earns \$300 per week plus a 7.5% commission rate on all his sales. If Dominic sells \$3,976 worth of merchandise in one week, how much will his total earnings for the week be?

(A) \$3282

(C) \$298.20 ✗

✓ (B) \$598.20

(D) \$450

Questions to think about:

1 • What information may be relevant to the problem?

2 • What does commission rate mean?

3 • What are the steps (math operations) for solving this problem?

4 • Can we eliminate any of the answer options? Why?

1. \$300/wk, 7.5% commission rate, \$3976 in sales

2. An additional payment based on the sales (\$\$) ↳ need to add

3. · Convert 7.5% to a decimal → 0.075
   · Sales · 0.075 ⇒ 3976 · 0.075 = 298.20
   · Add: base pay + 298.20
   300 + 298.20 = 598.20

4. Anything less than \$300