



AD VANTAGE

exemplar
responses

Driving Question	Time
How much of our experience is advertising?	90 minutes
Real-World Takeaways	
<ul style="list-style-type: none"> • A significant portion of our real and virtual worlds is advertising, only <i>some</i> of which we readily identify as such. • The amount and kinds of advertising we see influences what we <i>think</i> we want. • There are both positive and negative consequences of trying to reduce the prevalence of advertising in our worlds. 	
Math Objectives	
<ul style="list-style-type: none"> • Find the area of irregular shapes by decomposing them into rectangles and/or triangles • Calculate the area of rectangles and triangles 	

Lesson at a Glance		
Launch	Students watch two of the highest-rated television commercials of all time, then discuss the prevalence and purpose of advertising.	5 minutes
Act One	1 Given a photo taken in Times Square, determine what fraction of the entire scene is advertising by decomposing complex shapes into squares and triangles and finding their areas.	30 minutes
	2 Discuss the impact a ban on outdoor advertising, like that in São Paulo Brazil, might have on Times Square and on the places students live.	15 minutes
Act Two	2 Given a screenshot of a social media feed, determine what fraction of the page is advertising by decomposing the page into smaller shapes.	25 minutes
	4 Discuss the impact of online advertising and possible consequences if those advertisements disappeared.	15 minutes

- L Students watch two of Ad Age’s highest-rated television commercials of all-time: Wendy’s “Where’s the Beef?” (1984) about the size of its hamburgers; and American Legacy’s “Body Bag” (2000) about the number of people who die each day from smoking.



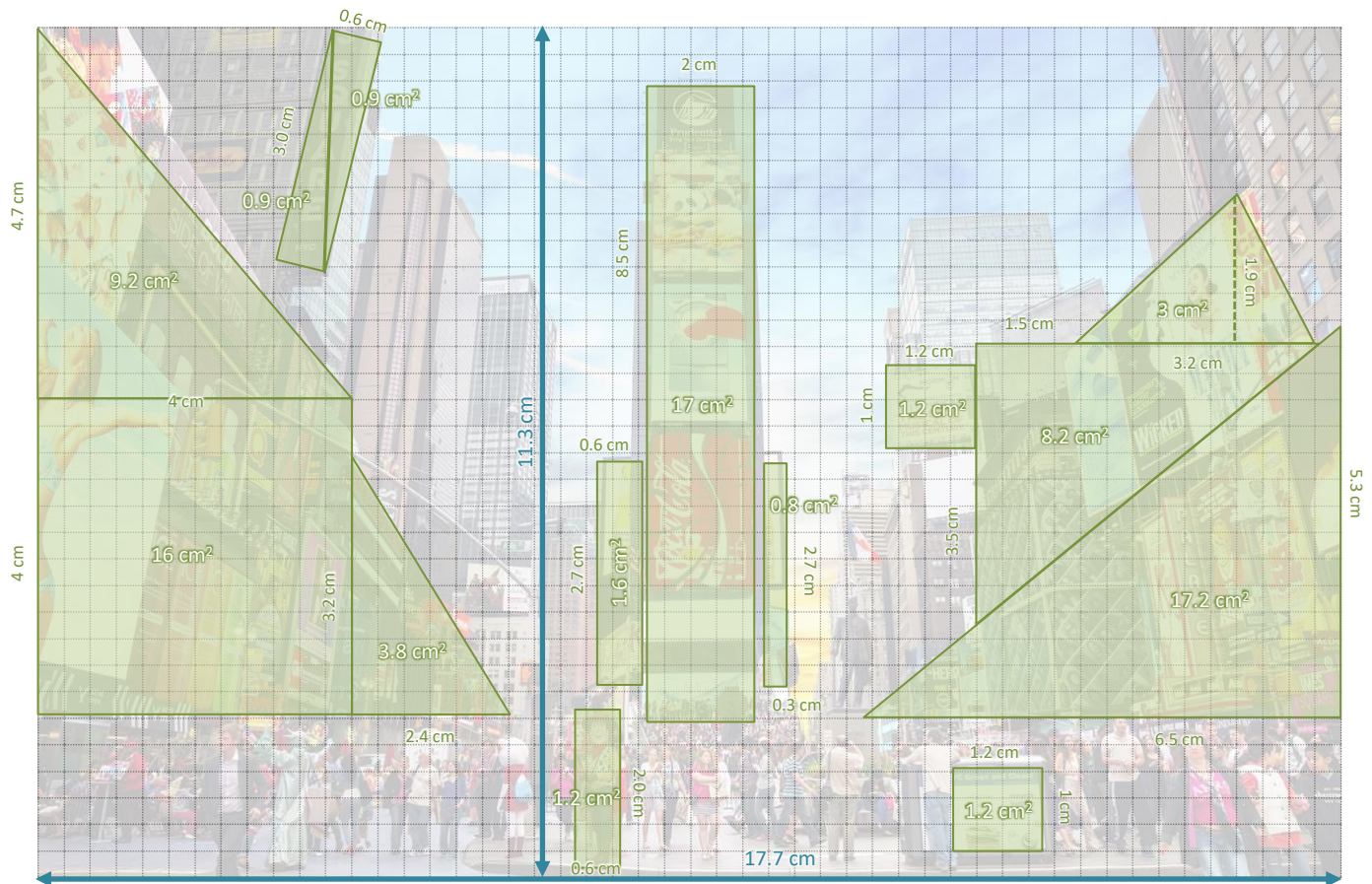
Discussion Questions

1. *What do you think the goal of each ad is?*
2. *What are some of the best TV ads you’ve seen, and what do you think makes them so effective?*
3. *In addition to TV, where are some other places you see ads?*
4. *What is the purpose of advertising? Would you describe advertising as good, bad, or neither?*

Key Takeaway(s)

- From TV to radio to the internet, we are surrounded by ads.
- The purpose of advertising is to influence behavior, e.g. what we buy, how we act, whom we vote for, etc.

- 1 Times Square is one of the most famous locations in New York City. Imagine you were standing in the same spot as the photographer. Approximately what fraction of your field of vision – how much you see – is an advertisement?



Students' answers will depend on what they classify as an ad, what shapes they use, and how precise their measurements are. Sample response based on the measurements above:

<u>Total Area</u>	<u>Advertising Area</u>	<u>Fraction</u>
Image = 17.7 cm wide by 11.3 cm tall Total Area = 17.7 cm × 11.3 cm ≈ 200 cm ²	Sum of Areas ≈ 82 cm ²	$\frac{\text{Ad Area}}{\text{Total Area}} = \frac{82 \text{ cm}^2}{200 \text{ cm}^2} = \frac{41}{100} = 41\%$

Teaching Tip

The image includes a faint grid that's 50 squares wide by 32 squares high for a total area of 1600 squares. In the sample response above, we measured the shapes in centimeters using a ruler, which resulted in precise areas. In this case, we didn't need the grid. If students aren't yet comfortable calculating areas or if they don't have access to rulers, you might encourage them to estimate the areas in terms of boxes. (Note: If your printer has lots of toner, it will help for students to draw their shapes with magic markers. That'll make them easier to see.)

- 2 In 2006, officials in São Paulo, Brazil banned all outdoor advertising. Watch the video about how residents reacted. If they banned outdoor ads in New York City, do you think it would make visiting Times Square better or worse? What if they banned outdoor advertising where you live?

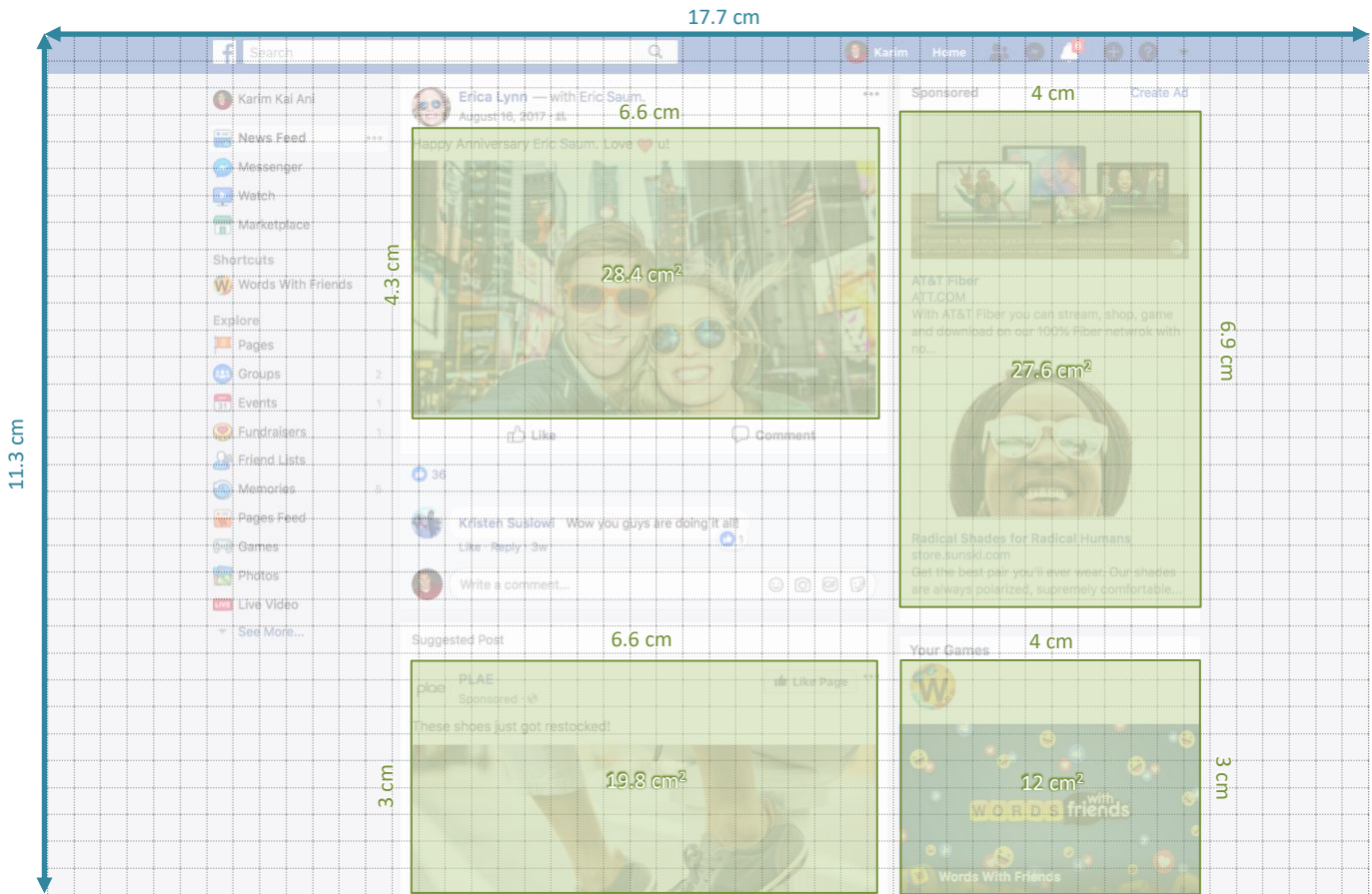
Answers will vary. Sample response:

The resident of São Paulo who were interviewed in the video said they preferred their city without outdoor advertising. They said it made it easier for them to see natural beauty, and also that they felt less distracted by loud and flashy ads. Business owners also seemed to prefer the ad-free version of their city. They said the ban on outdoor advertising forced them to focus on creating good products and experiences for their customers. Instead of spending money on billboards, now they relied on free word of mouth.

If the banned outdoor advertising in New York City, I actually think it would make Times Square less interesting. In many ways, the main attraction of Times Square is the advertising; one of the main reasons people go is to see the colorful billboards and neon signs. (In fact, Times Square is so bright at night that it's visible from space!) In this case, I think a ban on outdoor ads would make for a worse experience.

On the other hand, if they banned outdoor advertising in [student's city/town], I expect it would make for a better experience. I find most billboards and signs to be pretty ugly, and removing them would make our streets prettier. Of course, there would be some downsides. For example, the shop owner in the Brazil video said that word of mouth was effective in selling eyeglasses, but I'm not sure how much that would apply to something like gasoline. If gas stations had to take down their signs, how would people know where gas was the cheapest? Still, if we got rid of outdoor advertising, I imagine that gas stations would figure it out eventually, and I think overall it would make life better for most people.

3 Ads don't just exist in the physical world; they're online, too. The screenshot below shows a typical Facebook feed. What fraction of the page would you classify as an advertisement and why?



Like before, students' answers will depend on what they classify as an ad. One of the biggest factors will be whether they only include paid ads, or whether they also include the post itself. (One could argue the Facebook post is intended to communicate, "Look how happy I am!" Even though it isn't advertising a product, students might argue that it's an ad nonetheless.)

Sample response based on the measurements above:

<u>Total Area</u>	<u>Advertising Area</u>	<u>Fraction</u>
Image is same size as previous image Total Area $\approx 200 \text{ cm}^2$	Sum of Areas $\approx 88 \text{ cm}^2$	$\frac{\text{Ad Area}}{\text{Total Area}} = \frac{88 \text{ cm}^2}{200 \text{ cm}^2} = \frac{44}{100} = 44\%$

- 4 Some people think services like Facebook and YouTube shouldn't include advertisements. Others disagree. What are some impacts of online ads – both bad *and* good – and what do you expect would happen if they disappeared?

Answers will vary. Responses may include:

<u>Possible Positive Consequences</u>	<u>Possible Negative Consequences</u>
<ul style="list-style-type: none"> • People less likely to buy things they don't need • If we define social media posts (Facebook, Instagram, etc.) as "advertising," people might be less likely to compare themselves to others • Websites and apps would feel less cluttered • If news sites no longer depended on advertising, news might become less polarizing/sensationalistic 	<ul style="list-style-type: none"> • People might be less able to find out about new products and services, especially ones from new companies • To stay in business, companies like Facebook and YouTube might have to start charging users • Ads don't always try to get you to buy something. Political candidates also use ads to inform voters. If those ads went away, people might have less information about issues that matter to them.

Teaching Tip

Students may not realize that many of their favorite services – Facebook, Instagram, Snapchat, etc. – are free because of advertising. If students are quick to say that banning online ads would make for a better online experience, you might ask them to play out the situation: "If YouTube got rid of ads today, where do you think they'd get money from tomorrow?" It's important that students consider the possible negative consequences of removing online ads.

It's also important that students recognize that not all advertising is *visible*. This lesson focuses on ads that people see, e.g. billboards and images in the sidebar. However, there's also a lot of advertising/marketing that happens out of view. For instance, social media companies use data about your browsing habits, friends, etc., to create detailed user profiles. They can sell these to other companies, including financial companies who might consider them when setting a credit score or interest rate. If you've enabled location services on your smartphone, apps might combine your location information with your purchasing history to create custom coupons and pricing for brick-and-mortar stores. Which is to say: Even when we don't see it, we're still surrounded by advertising and marketing.

Given the role that apps and services play in our lives, this question presents a valuable opportunity for students to consider both the upsides of online ads, as well as the adage, "If you're not paying for the product, you *are* the product."