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Pretest

Understand integers

Solve numbers 1 to 5.

1. Which two numbers are opposites?

Ⓐ 0 and 15

Ⓑ 15 and 51

Ⓒ 15 and $^{-}51$

Ⓓ 15 and $^{-}15$

2. Matt is playing a game. The table shows his score for the first four rounds.

	Round 1	Round 2	Round 3	Round 4
Score	3	$^{-}1$	$^{-}4$	2

For which round does Matt's score have the greatest absolute value?

Ⓐ Round 1

Ⓑ Round 2

Ⓒ Round 3

Ⓓ Round 4

3. Which value or values would make this sentence true?

The absolute value of ☐ and ☐ = 9

Ⓐ 9 only

Ⓑ $^{-}9$ only

Ⓒ 9 and $^{-}9$

Ⓓ neither 9 nor $^{-}9$

4. The outside low temperature on Wednesday is $^{-}3$°C. The weather station predicted that Thursday's low temperature would be 2°C less than Wednesday's low.
If the prediction is true, what will be Thursday's low temperature?

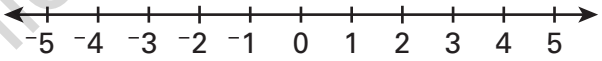
Ⓐ $^{-}5$°C

Ⓑ $^{-}1$°C

Ⓒ 1°C

Ⓓ 5°C

5. Lakshmi said that the number line proves that $^{-}2 < {}^{-}4$.



Is Lakshmi correct?

Ⓐ Yes, because $^{-}4$ is further left than $^{-}2$.

Ⓑ Yes, because $^{-}2$ is further left than $^{-}4$.

Ⓒ No, because $^{-}4$ is further right than $^{-}2$.

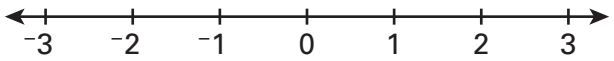
Ⓓ No, because $^{-}2$ is further right than $^{-}4$.

Benchmark 1

Lessons 1–4

Solve numbers 1 through 16.

1. Stephanie drew this number line to compare numbers.



Which statement is **not** true?

Ⓐ $-1 > 1$

Ⓑ $-3 < -1$

Ⓒ $0 > -1$

Ⓓ $-2 > -3$

2. The outside temperature at 6 a.m. was −4°C. By 8 a.m., the temperature was 0°C. Which expression could Joe use to show the change in temperature?

Ⓐ $-4 + (-4)$

Ⓑ $0 - (-4)$

Ⓒ $4 - (-4)$

Ⓓ $4 + 4$

3. Dave is competing in a swimming race. His position behind the leader changed by −2 metres in each of 3 laps. Which shows the total change in metres?

Ⓐ −6 m

Ⓑ −5 m

Ⓒ 5 m

Ⓓ 6 m

4. A trapezium has a height of 2 centimetres, a base of 2.4 centimetres and another base that measures 1.6 centimetres. What is the area of the trapezium?

Hint: $A = \frac{1}{2}h(b_1 + b_2)$

Ⓐ $\frac{4}{5}$ cm²

Ⓑ $2\frac{2}{5}$ cm²

Ⓒ 4 cm²

Ⓓ 8 cm²

5. Sam is solving the equation below. What operation does she need to use to solve for d?

$$9d = 36$$

Ⓐ addition

Ⓑ subtraction

Ⓒ multiplication

Ⓓ division

6. Gayle bought a pack of pistachios to make trail mix. She used 42 pistachios in each of the 6 trail-mix bags she made. How many pistachios, p, did she use in all? Write and solve an equation.

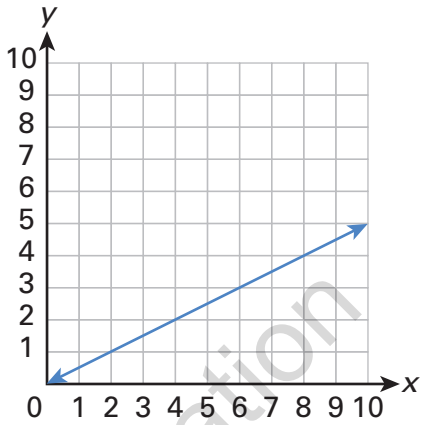
Ⓐ $\frac{p}{6} = 42$
$p = 252$

Ⓑ $p + 6 = 42$
$p = 36$

Ⓒ $6p = 42$
$p = 7$

Ⓓ $p - 6 = 42$
$p = 48$

7. Which equation could represent the proportional relationship shown in the graph?



Ⓐ $y = 2x$

Ⓑ $y = \frac{1}{2}x$

Ⓒ $x = \frac{y}{2}$

Ⓓ $x = \frac{1}{2}y$

8. Lexi types 205 words in 5 minutes. She wants to know how many words she will type in 20 minutes. Which proportion can be used to solve this problem?

Ⓐ $\frac{205}{5} = \frac{20}{w}$

Ⓑ $\frac{205}{5} = \frac{w}{20}$

Ⓒ $\frac{5}{205} = \frac{w}{20}$

Ⓓ $\frac{5}{w} = \frac{20}{205}$

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9. Mrs McKenna bought $5\frac{1}{2}$ kilograms of lamb cutlets for a barbeque. If she spent $15.40 on the cutlets, what was the price per kilogram?

Ⓐ $0.36

Ⓑ $2.80

Ⓒ $9.90

Ⓓ $84.70

10. Suki ordered 96 pens. She has already sold 72 of the pens. What percentage of the pens has Suki sold?

Ⓐ 48%

Ⓑ 72%

Ⓒ 75%

Ⓓ 96%

11. Zack made 40 throws. He hit a target 80% of the time. How many times did Zack hit the target?

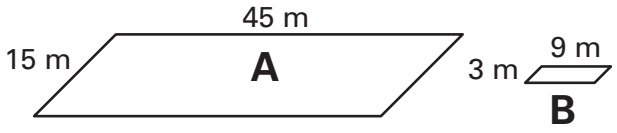
Ⓐ 5

Ⓑ 20

Ⓒ 32

Ⓓ 38

12. Two parallelograms are similar.



What is the scale factor from A to B?

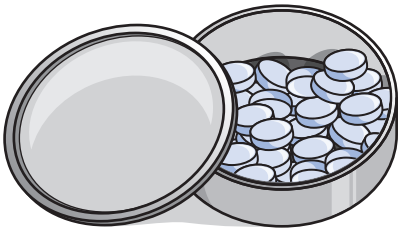
Ⓐ $\frac{1}{5}$

Ⓑ $\frac{1}{3}$

Ⓒ $\frac{1}{2}$

Ⓓ 3

13. A circular mint tin has an approximate circumference of 12 centimetres. What is the approximate radius of the tin?



Ⓐ 2 cm

Ⓑ 4 cm

Ⓒ 6 cm

Ⓓ 8 cm

14. A perfume sample comes in a glass cylinder with a height of 4 centimetres and a radius of 0.5 centimetre. What is the volume of the cylinder to the nearest cubic centimetre?

Ⓐ 1 cm^3

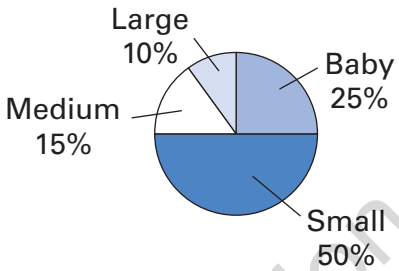
Ⓑ 3 cm^3

Ⓒ 13 cm^3

Ⓓ 14 cm^3

15. Mr Patterson tracked the number of each size of ice-cream sold in his store on Friday evening. He used his data to create this pie chart.

Ice-cream sales by size



What fraction of the ice-cream sales were either the baby or small size?

Ⓐ $\frac{1}{4}$

Ⓑ $\frac{1}{3}$

Ⓒ $\frac{1}{2}$

Ⓓ $\frac{3}{4}$

16. Kim was born on the following date.

27/7/2007

If one digit from her birth date is chosen at random, what is the probability it will be a 7?

Ⓐ $\frac{1}{3}$

Ⓑ $\frac{3}{7}$

Ⓒ $\frac{4}{7}$

Ⓓ $\frac{3}{4}$

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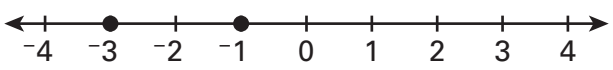
Post test

Understand integers

Solve numbers 1 to 5.

1. Which fact does the number line show?



Ⓐ $-3 > -1$

Ⓑ $3 < 1$

Ⓒ $1 < -3$

Ⓓ $-1 > -3$

2. Gareth is thinking of an integer. He gave these clues:

- The integer is larger than -3.
- The integer is even.
- The integer is negative.

Which is Gareth's integer?

Ⓐ -4

Ⓑ -2

Ⓒ -1

Ⓓ 2

3. Which word(s) can you use to describe these numbers?

10 and -10

Ⓐ opposites

Ⓑ negatives

Ⓒ whole numbers

Ⓓ odd numbers

4. A remote-controlled submarine makes 4 dives. The depth for each dive is given in the table.

Dive	1	2	3	4
Depth (m)	-64	-55	-110	-88

Which statement is true?

Ⓐ Dive 1 was the shallowest dive.

Ⓑ Dive 2 was the deepest dive.

Ⓒ Dive 3 was deeper than Dive 1.

Ⓓ Dive 4 was deeper than Dive 3.

5. The final scores of some game contestants are shown in the table.

Al	-5
Bria	3
Manuel	-2
Zack	10

The contestant with the value closest to zero wins the game. Who is the winner?

Ⓐ Al

Ⓑ Bria

Ⓒ Manuel

Ⓓ Zack